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# **COTTON and MANMADE FIBERS Competition in JAPAN**

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# Foreword

In view of the importance of the export market to the total market for U.S. raw cotton, the raw cotton industry of the United States has a large stake in the competitive relationship between cotton and manmade fibers in foreign textile industries. Japan is our largest single foreign market for cotton; therefore, cotton's competitive situation in Japan is of considerable moment to the strength of the U.S. market for raw cotton there.

This report is primarily concerned with the situation in the segment of the Japanese textile industry producing yarn on the cotton spinning system and in various markets for its products. Within this framework, the report attempts to evaluate inter-fiber relationships and the trends and outlook concerning this aspect of the Japanese textile industry.



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# **COTTON and MANMADE FIBERS Competition in JAPAN**

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Cotton faces a tough challenge in Japan. Fiber consumption patterns indicate the increased importance of manmade fibers.<sup>1</sup> Under new conditions, introduced with the enactment of the law governing the textile industry, effective October 1, 1964, mills are enabled to move closer to a multifiber operation than at any previous time. Many factors will determine the ratios of both cotton and manmade fiber consumption to total fiber use in the years ahead. A number of these factors are examined and evaluated in this report.

## **Summary**

The nature and the structure of Japan's textile industry probably have a substantial effect on interfiber competition. The industry encompasses 10 extremely large companies which are highly integrated, produce a wide range of textiles, and control a substantial share of the industry's total equipment. There are also numerous medium- and small-size spinning and weaving companies engaged in specialized lines of production. It is significant that in addition to the number of manmade fiber manufacturing companies, all Japan's large spinning companies either manufacture or are somehow associated with other companies that produce manmades. Thus, arising from these business ties, there is a strong underlying current supporting the use of manmade fibers in the major Japanese spinning mills.

The Japanese Government has affected interfiber competition by encouraging the expansion of manmade fiber production and consumption, while controlling the use of spinning and weaving equipment for cotton and cellulosics as it attempted to deal with the unbalanced supply

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<sup>1</sup> Manmade fibers may be defined as fibers produced industrially as contrasted to those found in nature, such as cotton, wool, and silk. Manmades are classified into two major groups: cellulosic (those made from cellulose found in woodpulp and cotton linters) and noncellulosic (those manufactured from chemical raw materials such as found in coal, petroleum, water). The cellulosic group includes rayon, acetate, and cuprammonium, while the noncellulosic group includes nylon, polyester, acrylic, and various others of lesser importance. Another type of manmade is textile glass, which are generally not classified in either major group, since they are made from glass marbles by glass manufacturers in a process quite different from those used by manufacturers of other manmade fibers.



and demand situations in the postwar period. In addition, until 1961, government controls over the importation of cotton created artificial shortages tending to limit consumption, although other more recent government actions have aided the consumption of cotton.

Certain aspects of the Japanese economic structure may have a bearing on interfiber competition—particularly the trading company system and the interrelationship of a number of cotton textile companies to manmade fiber producers and to other enterprises. The distribution system, which is in a dynamic state, may also be a factor. Narrowing the channel between the producer and the consumer by vertical integration of textile producing units and by establishment of retail chain and discount stores could result in textile prices that are “good buys” in relation to other consumer goods, since textile products easily lend themselves to integration of producing units and to this type of merchandising. Substantial modernization and other improvements have also taken place in the textile industry, to some extent counter balancing rising costs for labor and other inputs and affecting relative prices.

From the standpoint of U.S. cotton sales in Japan, the important questions are not only whether textile production will continue to increase but also whether any such increases will be shared by cotton. Manmade fibers, many of which came out of their infancy after World War II, now comprise over 40 percent of the fiber consumed in the textile industry. In contrast, cotton, which once constituted 70 percent of total fibers put into process by the Japanese textile industry, now represents considerably less than half.

In making a choice of fibers, textile manufacturers have many factors to consider. Withal, there is every indication that both blended and 100 percent manmade fiber textiles have been relatively profitable for Japanese manufacturers and distributors.

Circumstances during the postwar years combined rising levels of living with tremendous expansion of manmade fiber production in Japan. Consumers responded to the heavy promotion by manmade fiber producers and found the end-use qualities of certain manmade fiber products attractive, although their prices were almost always higher than cotton's.

The nature of Japan's export market for textiles has a tremendous impact on the relative strength of cotton vis-a-vis manmade fibers in the Japanese textile industry. Some countries that have been large-volume markets for Japanese cotton textiles are now producing yarns and fabrics that are displacing imports; moreover, many countries new to the export of cotton textiles now provide Japan substantial competition in third markets. Growth in Japan's cotton textiles exports seems to have virtually stopped; except for modified rayon, the export of cellulosic fiber products seems also to be experiencing the same fate. Exports of noncellulosic fiber products, however, which were negligible

10 years ago, continue to rise sharply, in part because there are practically no such industries in most of the less developed countries.

## Prospects

The relative importance of some factors affecting interfiber competition that were significant in the past is shifting as the character of Japan's markets, home and export, change. At present writing, it appears that manmade fiber production in Japan will continue to expand, with emphasis on noncellulosics, although in the immediate future some adjustment to the overcapacity for nylon and polyester may take place. Production of cellulosics, buoyed by the relative success of modified rayon and of some types of blends, will probably rise, although at a much slower rate. The possible reductions in prices for manmade fiber may affect the relative attractiveness of noncellulosics to textile manufacturers and consumers. Heavy advertising campaigns sponsored by manmade fiber producers and their industry association will continue to be an important factor.

The Japanese consumer will probably become more selective, however, taking into account both price and performance when applying the test of satisfaction. Cotton can expect to benefit from increased incomes and from the larger population constituting the domestic market. In such a climate, it will be of extreme importance to the future growth of cotton textile consumption in the Japanese home market that an active market promotion program for cotton products be continued in order to make the most of the "new look" that cotton products have achieved.

The character of Japan's export markets for textiles will also continue to change. The aggressiveness of the Japanese manmade fiber industry and of the textile industry using manmade fiber and yarn may be reflected in intensified programs to stimulate the export of manmade fiber textiles, not only to the more developed markets of the industrialized countries, but to the less developed countries as well, as their populations and national incomes increase. Undoubtedly, Japan's manmade fiber products will remain fully competitive in world markets. Japan's cotton textile export markets will be challenged by local industries in less developed countries so that it will become increasingly difficult to enlarge or even sustain markets in such areas.

Japan's exports of cotton products to industrial countries will probably continue to be a relatively small share of the total, but the situation in the short run may show a possibility for expansion. Some countries that had virtually shut out Japanese textiles can be expected to provide increased access to their markets. Also, the "growth provisions" of bilateral arrangements Japan has with the United States and some other countries point to somewhat expanded markets in developed countries taken as a whole. Export markets may expand

relatively less than the domestic market for cotton goods, largely as a result of intensified competition from other suppliers.

Despite all the divergent trends that have been evident in recent years, there is a strong basis for confidence—though not for complacency—regarding the future of cotton in the textile industry of Japan and the future of cotton textiles in the Japanese home and export markets. Much of this confidence is based on respect for the highly efficient textile industry and the energetic approach to Japanese businessmen; these may be expected to continue to combine their talents with the fine qualities of cotton to produce products of wide consumer appeal from the standpoint of price and performance.

# Textile Supply and Demand

## Japanese Textile Industry

The textile industry of Japan is one of the world's largest. It is of great importance to the economy of Japan, as one of the major sources of employment, and of foreign exchange earnings.

The Japanese textile industry has had a long and distinguished history. Originally, it was based on cotton, silk, and wool. During the period between World Wars I and II, a new dimension was added when rayon became another important raw material. However, rayon staple was only the first of a number of manmade fibers to become available to Japanese spinners.

The cotton sector of the industry first pushed above 100,000 spindles in 1887, above 1 million in 1896, above 5 million in 1924, above 10 million in 1935; it reached a prewar peak of over 12 million in 1937. Japan, in addition to its reputation as a textile producer, has a long history as a textile exporter. Cotton fabric was first exported in 1883; it reached the million-yard level in 1900, the 1-billion-yard level in 1918, and the 2-billion-yard level in 1932. Production capacity and output shrank greatly during World War II, but a spectacular restoration of equipment and build-back of production levels have since occurred.

Fiber consumption probably affords the best comparison of effective size of textile industries among countries. Japan is the fifth largest consumer of raw cotton, and the world's largest import market for the fiber. Only four cotton-producing countries—the United States, the U.S.S.R., Mainland China, and India—consume more. The production of manmade fibers may be considered a reasonable measure of manmade fiber consumption. In total manmade fiber production, Japan ranks second only to the United States. Japan is now the world's largest producer of cellulosic staple, a raw material directly competitive with cotton on the cotton spinning system. While Japan



Table 1.—Cotton system spinning equipment and spun yarn production in Japan, 1946-64

Year	Spindles—				Spun yarn production		
	Cotton	Cellulosic	Noncellulosic	Total	Cotton <sup>1</sup>	Cellulosic	Noncellulosic
	1,000	1,000	1,000	1,000	Million pounds	Million pounds	Million pounds
1946	2,632	174	—	2,806	129.2	10.7	—
1947	3,033	193	—	3,226	269.2	14.6	—
1948	3,453	230	—	3,683	274.8	24.8	—
1949	3,736	412	( <sup>2</sup> )	4,148	347.2	40.3	( <sup>3</sup> )
1950	4,338	638	( <sup>2</sup> )	4,976	525.4	89.2	0.4
1951	6,387	1,073	( <sup>2</sup> )	7,460	743.3	150.0	2.8
1952	7,455	1,421	( <sup>2</sup> )	8,876	778.5	207.0	6.0
1953	7,663	1,637	( <sup>2</sup> )	9,300	913.7	250.3	12.7
1954	7,904	1,888	( <sup>2</sup> )	9,792	1,024.0	323.4	16.7
1955	8,168	2,144	( <sup>2</sup> )	10,312	922.7	410.9	29.2
1956	8,992	2,904	( <sup>2</sup> )	11,896	1,087.0	514.6	52.6
1957	9,018	2,949	324	12,291	1,139.9	621.8	74.0
1958	9,021	2,917	963	12,901	967.7	425.1	74.9
1959	7,713	2,536	1,202	11,451	1,048.5	448.8	128.8
1960	7,781	2,459	1,516	11,756	1,215.7	474.8	236.4
1961	7,936	2,430	1,645	12,011	1,231.6	447.6	267.5
1962	7,953	2,436	1,654	12,043	1,067.4	408.6	297.1
1963	7,999	2,436	1,671	12,106	1,044.5	405.2	351.4
1964	7,059	2,188	1,681	10,928	1,097.7	416.3	437.7

<sup>1</sup> Includes pure cotton, mixed cotton and waste cotton yarn.<sup>2</sup> Unknown.<sup>3</sup> Less than 50,000 pounds.Sources: *Statistical Digest of Japanese Textile Industry*; *International Cotton Industry Statistics*; *Textile Exports of Japan*; *Monthly Reports of the Japanese Cotton Spinning Industry*; *Statistical Yearbook*.

Table 2.—Cotton, silk and manmade fiber weaving equipment, and fabric production in Japan, 1946-64

Year	Looms		Fabric production					Total
	Cotton and spun rayon	Silk and rayon	Cotton	Rayon staple	Rayon filament	Noncellulosic staple and filament	Silk	
	1, 000	1, 000	Million sq. yds.	Million sq. yds.	Million sq. yds.	Million sq. yds.	Million sq. yds.	Million sq. yds.
1946	1 134	74	242	30	42	—	47	361
1947	1 157	176	662	32	46	—	54	794
1948	1 189	209	924	49	400	—	120	1, 133
1949	217	234	985	71	120	—	137	1, 313
1950	236	227	1, 542	210	397	—	132	2, 281
1951	289	234	2, 179	322	487	—	158	3, 149
1952	310	225	2, 239	462	497	3	194	3, 399
1953	330	219	2, 811	504	575	22	170	4, 082
1954	346	229	3, 184	651	660	31	183	4, 709
1955	390	248	3, 018	896	774	65	209	4, 962
1956	389	263	3, 480	1, 112	921	108	213	5, 834
1957	391	269	3, 841	1, 358	925	138	241	6, 503
1958	380	259	3, 165	1, 120	809	163	216	5, 473
1959	372	259	3, 297	1, 132	868	285	265	5, 847
1960	382	262	3, 853	1, 261	922	507	263	6, 806
1961	390	268	4, 046	1, 174	950	737	208	7, 115
1962	369	269	3, 688	1, 006	789	771	217	6, 471
1963	368	268	3, 514	1, 199	744	985	180	6, 622
1964	372	278	3, 547	1, 402	505	1, 259	192	6, 905

<sup>1</sup> Listed as cotton looms only.

Sources: *Statistical Digest of Japanese Textile Industry*; *Japan, Statistical Yearbook*; *Monthly Statistics of Japan*; *Textile Exports of Japan*.

exports as fiber about 15 percent of its total manmade fiber production, the great bulk is used in the textile mills of Japan.

In 1963, of all fibers consumed for all uses by Japan's textile industry, about 47 percent was cotton, 16 percent noncellulosic, 26 percent cellulosic, 10 percent wool, and a relatively small amount other fibers (mainly silk and linen).

For the most part, Japan's textile industry is very modern and efficient. Operating its relatively new production equipment on a multiple shift basis, the Japanese industry, as a whole, achieves high productivity. With just over 1 million more cotton spindles than the United Kingdom, Japan produced almost  $3\frac{1}{2}$  times as much cotton fabric in 1964. While Japan produces a full-quality range of textiles, which has been upgraded since the close of World War II, much of its production of cotton and rayon goods is aimed at low income customers abroad.

## Structure

The structure of Japan's textile industry is generally such as to favor adaptability to meet market changes, depending on changes in relative costs and prices, export demand, domestic consumer preferences, and the like. During the postwar period, the industry has been dominated by 10 very large spinning companies. Historically, each of the Big Ten was created through consolidation, by an old established firm, of a number of small companies in cotton spinning and related fields. This tendency to consolidation was accelerated just before World War II and resulted in great efficiency in organization and operation.

The Big Ten control almost 5.5 million spinning spindles, over 40 percent of Japan's total. The number of spindles that each of these companies owns far exceeds the total number in many other cotton textile producing countries. These companies are vertically integrated to a large degree, and produce highly diversified lines of textile products. All are involved either directly or indirectly in the manufacture of manmade fibers. While they are thought of as cotton spinning companies, only about 60 percent of their sales are in cotton products, the rest in wool, manmade and other textile fiber products. In November 1965, it was announced that Toyo Spinning and Kureha Spinning Companies would merge effective April 26, 1966. The resulting company will be the world's largest spinner with 1.2 million cotton-system spindles and Japan's largest wool spinner with 130,000 spindles.

Before October 1, 1964, there was a total of about 140 spinning firms designated as cotton spinners. In addition to the Big Ten, there were 2 groups: (1) the "Shin-Bo", or "New Spinners", established after World War II by the consolidation of many remaining small firms, averaging, after consolidation, about 50,000 cotton spinning spindles each, and (2) the "Shin-Shin-Bo" or "New-New-Spinners" averaging

about 10,000 cotton spinning spindles each. These three groups owned, in all, about 9 million cotton spinning spindles. In addition, a large number, thought to be upward of 1.6 million unregistered spindles were operating without regard to production controls until late 1964.

For the period May 1964—April 1965, percentage-of-product sales, by type of fiber, reported by the Big Ten (ranked below in order of sales) was as follows:

Spinning company	Cotton	Wool	Manmades	Other
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
Kanegafuchi . . . . .	26	27	13	34
Toyo . . . . .	56	24	20	—
Nichibo . . . . .	38	24	23	15
Kureha . . . . .	70	11	19	—
Kurashiki . . . . .	41	29	26	4
Fuji . . . . .	54	6	40	—
Nitto . . . . .	36	—	40	24
Nisshin . . . . .	52	—	37	11
Shikishima . . . . .	56	3	41	—
Daiwa . . . . .	42	13	45	—

Source: *Japan Textile News*, July 1965, vol. 128.

The radically different legislation governing Japan's textile industry, that went into effect on October 1, 1964, has made far-reaching changes in industry structure. While, previously, all spindles were segregated into 10 categories according to kind of fiber spun, they are now grouped into only four, one of which is designated for the formerly "illegal" spindles that were in operation under the old law but which are now recognized as newly registered spindles. Cotton system spindles that have been used for spinning manmade fibers may now be used for spinning cotton, but conversely, the sum total—or 13.4 million—are now available for spinning manmade fibers.<sup>2</sup> Interfiber competition will be sharpened in future by the breaking down of the artificial separation built into the legislation governing use of the system's spindles from 1956 until the end of September 1964. The venerable All Japan Cotton Spinner's Association reflected the new conditions by changing its name to the Japan Spinner's Association and by opening its membership to spinners of manmade fibers.

On the new basis, that segment of the industry using cotton system spindles is comprised of 245 firms with a total of 13.4 million spindles. It is still an industry of bigness, with 10 percent of the firms owning an average of 375,000 spindles each, or about 70 percent of the industry's total. In fact, the five largest spinning companies own over 25 percent of the country's spindles. In contrast, 70 percent of the firms average

<sup>2</sup> While it is true that spindles formerly used for manmade fibers may now be used for the production of cotton yarn, it is thought that many mills having such spindles lack preparatory equipment for cleaning raw cotton and therefore that the effect of this change in the law may not be as advantageous for cotton as it might, at first, seem.



about 8,000 spindles each and account for only 11 percent of the equipment; the remaining 20 percent of the firms have an average of 60,000 each, and account for about 22 percent.

At the end of 1964, the nation had about 372,000 looms operating on cotton and spun rayon yarn. These belonged to a total of 13,741 weaving companies. Of these, there are 34 spinner-weavers, which both spin yarn and weave fabrics. While the 5 largest firms own an average of 5,200 looms each, there are over 13,700 small companies, some still operating nonautomatic looms and hand looms requiring individual operatives for each. These companies average 22 looms apiece. Commission weaving is an important aspect of fabric production in Japan. While the large integrated firms both spin and weave, they deliver a still larger quantity of yarn to weavers for weaving on commission.

The finishers of textiles who bleach, dye, print, or impart special finishes (such as wash-and-wear) constitute, for the most part, a separate industry. The large integrated spinning companies own only about 10 percent of the finishing equipment, but finish about 15 percent of the goods, some on a commission basis for trading companies. The specialized finishing companies process about 85 percent of the fabric (exclusive of wool), finished in Japan on a commission basis for spinner-weavers, manmade fiber producer-weavers, trading companies, and independent weavers.

## Manmade Fiber Industry

In 1964, the volume of manmade fibers produced by Japanese manmade fiber companies totaled over 1.9 billion pounds, equivalent to 5.2 million bales of cotton, more than three times the quantity produced only 10 years before. Many manmade fiber producers are owned in whole or in part by the Big Ten spinning companies. Some smaller spinners also have direct or indirect affiliations with manmade fiber producers.

The industry produces a full range of manmade fiber products; every type of manmade fiber produced elsewhere in the world finds a counterpart in Japan. *Cellulosic fibers* were produced in volume in the mid-1930's, with viscose staple by far the most important. A number of types were produced, including several types of rayon staple. In 1960, the Japanese began to produce a new type of viscose rayon, known as polynosic, or high-wet modulus rayon. Although this commands a price premium over regular rayon and also over most grades and staples of cotton, the product's improved characteristics—compared to the characteristics of regular rayon—make the product potentially important as a direct competitor of cotton. *Noncellulosic fibers* were not produced commercially in Japan until after the close of World War II. Production began with the introduction of vinylon, a fiber

of Japanese origin. There followed in rapid succession: Nylon in 1951, polyvinylidene chloride in 1952, polyvinyl chloride in 1956, acrylic in 1957, polyester in 1958, polyethylene (olefin in the United States) in 1959, and polypropylene in 1962. The most important of these are nylon and polyester staple and filament. Others of lesser commercial importance also made their appearance during the later part of this period. Most noncellulosic fiber produced in Japan is manufactured on license from patent holders in other major fiber producing countries.

Rayon staple, which has long been the most important type of manmade fiber, continues to be produced in greater volume than all other types, although production of noncellulosic fibers has expanded rapidly in recent years to reach almost 40 percent of the total in 1964.

Production in Japan of manmade fibers,<sup>3</sup> cellulosic and noncellulosic, in 1964, was as follows:

	<i>Million pounds</i>
Cellulosic filament.....	297. 8
Viscose rayon.....	157. 9
High tenacity rayon.....	53. 1
Cuprammonium.....	39. 5
Acetate.....	47. 3
Cellulosic staple.....	839. 4
Viscose rayon.....	749. 8
Polynosic rayon.....	57. 2
Cuprammonium.....	7. 0
Acetate.....	25. 4
Total cellulosic filament and staple.....	1, 137. 2
Noncellulosic filament and staple.....	
Nylon.....	262. 6
Polyester.....	188. 6
Vinylon.....	97. 4
Polyacrylonitrile.....	135. 8
Polyvinylchloride.....	20. 3
Polypropylene.....	22. 3
Polyethylene.....	18. 8
Polyvinylidene chloride.....	8. 8
Total noncellulosic filament and staple.....	754. 6
Grand Total.....	1, 891. 8

Source: *Chemical Fibers of Japan, 1965*.

Products of the manmade fiber industry, in turn becoming raw material for textile spinners and weavers, have an important and expanding place in Japanese textile producers' plans. The impact of manmade fiber is readily apparent in production data for the entire

<sup>3</sup> Does not include textile glass fibers.

textile industry, which takes into account consumption and output of silk mills, manmade fiber mills, wool mills, and the like. Although cotton consumption has been rising during the postwar era, cotton has nevertheless declined relative to total fibers consumed as manmade fibers gained in importance, both relatively and actually.

## Yarn and Fabric

In 1964, the spindles of Japan produced from cotton and staple man-made fibers nearly 2 billion pounds of yarn, of which 51 percent was cotton, either pure, mixed or waste, 21 percent cellulosic, and 22 percent noncellulosic. In addition, about a half billion pounds of filament fiber yarn of cellulosic and noncellulosic types was produced by the manmade fiber industries to be added to products available for weaving on Japan's looms for domestic apparel and industrial uses, and for export.

As indicated, the Japanese textile industry had been divided into various sectors based on major type of fiber spun as a result of the now replaced legislation. Well over 90 percent of the fibers put into process by those designated as cotton spinners has been cotton. The remainder has been largely rayon staple fiber, until 1960, when the volume of noncellulosics, particularly polyesters, began to exceed greatly that of rayon staple.

In recent years, the production of 100 percent cotton yarn has been practically unchanged, but production of cotton yarns mixed with rayon staple or noncellulosic staple has increased. Blended yarns, only 6 percent of the total in 1963, accounted for most of the increase in yarn production by cotton spinners. Over 90 percent of the mixed yarns produced by cotton spinners in 1963 were cotton-noncellulosic mixtures. Cotton-polyester blends have been the most common, particularly for men's shirts. Some revival of interest in cotton-rayon blends, also, may come about as a result of increased use of polynosic rayon on the cotton spinning system.

In addition to the aforementioned blends mainly of cotton, blends of other combinations are also produced in volume on cotton system spindles. Whereas blended yarns of all types, including those mainly of cotton, were about 11 percent of total Japanese yarn production in 1960, they constituted almost 20 percent in 1964. Blended yarns were estimated to be over 70 percent of total spun noncellulosic yarn production in 1964.

The looms of Japan previously designated for cotton, spun rayon, and silk, produced almost 7 billion square yards of cloth in 1964, of which about 51 percent was cotton, 28 percent cellulosic fibers (both staple and filament), 18 percent noncellulosic, and 3 percent silk. Generally, shirting and poplin together constitute almost half of the total of pure cotton goods, but a wide range of other types of fabrics is also manufac-



tured. While separate statistics are not available, it is likely that the volume of blended yarn fabrics has increased with or exceeded the production of larger quantities of blended yarns. Since 1958, production of fabrics manufactured from filament rayon and silk has declined, and that of fabrics made of cotton and spun rayon has expanded only modestly. This contrasts sharply with noncellulosic fabric production, which increased rapidly from about 31 million yards in 1954 to 163 million yards in 1958 and to 1.3 billion yards in 1964.

## Domestic Market

The domestic market of Japan is characterized by a population of more than 97 million consumers having the highest family income in Asia. An important aspect is the relatively large proportion of middle-class consumers, with a high degree of literacy and mobility.

Socially and economically, Japan is in a period of transition. Since the end of the reconstruction period that followed World War II, there has been a definite movement away from the customs and habits of past generations. An adventuresome spirit and a great willingness to "try the new" have developed, especially among the younger adults. A growing informality, an interest in sports, and many other aspects of personal freedom unknown to older generations are evident in today's culture, and likely to remain as permanent aspects of the Japanese scene.

These attitudes, considerably different from the widespread conservative attitudes of the older generations, are observable in living habits, and therefore shopping habits, of people in the younger age groups. The lure of consumers' durables, as contrasted to clothing and food, is great. Washing machines, refrigerators, motorcycles, and electric rice cookers are found in increasing numbers in Japanese households, and complete for the consumers' yen in the market place. There are more television sets per thousand persons in Japan than in Western Europe, and it is expected that the ratio will increase considerably.

Per capita incomes have risen rapidly in the postwar years. Even after adjustments for price increases, per capita incomes increased more than 2½ times in the 13-year period, 1950 to 1963. However, expended consumers' incomes have been strained by increased prices for necessities of life and the consumers' quest for higher quality goods. Some of the increased incomes have been channeled into textiles, but often these were textiles of higher quality, so that increased consumer expenditures did not cause an equivalent increase in fiber consumption. In 1963, about 12 percent of total consumer expenditures of urban families was for clothing. This proportion does not include shoes and other nontextile items.

Consumption of textile fibers per person is relatively high. It exceeds the average for Western Europe and that for most other countries, except those with the very highest levels of living. In



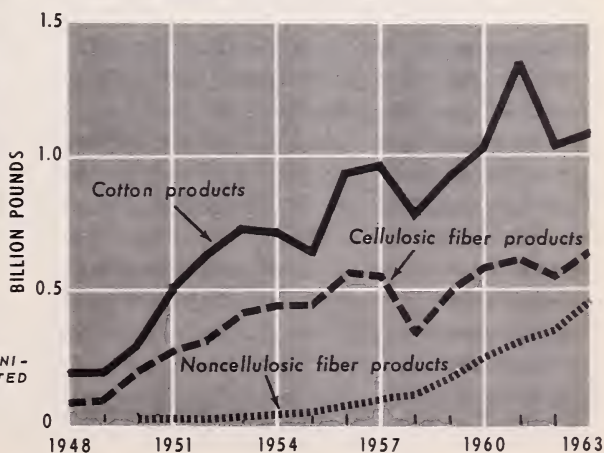
the Eastern Hemisphere, the inhabitants of only Australia and New Zealand consume more textile fibers than Japan. Since the close of World War II, there has been an almost steady expansion of per capita fiber consumption, which in 1963 rose above 25 pounds, double the prewar levels. One major reason for the postwar expansion of textile consumption was the replenishment of depleted and poor-quality wardrobes, especially after rationing was discontinued in 1949. Increased consumer income has also been an important factor. Although total fiber consumption has more than doubled, the amount of cotton consumed per person has increased only slightly. There has been some expansion in consumption of wool, but the greatest increase has been in manmade fibers.

Generally, each pound of manmade fibers used for textiles replaces more than a pound of cotton fiber in view of the smaller waste factor involved in the manufacturing process and the lighter weight of most manmade fiber fabrics.

As in many other areas of Japanese life, the types and styles of clothing are in a state of transition. Traditional Japanese kimonos are still worn by men and women in the privacy of their homes and in the rural areas; many older city dwellers use kimonos exclusively. Western style clothing is used by urbanites in their places of business and in schools and other public places. Farmworkers wear a loose-type coverall for work in fields and rice paddies. The traditional garb of the young female office clerk is a smock over a straight skirt; the business clothing of men in white-collar jobs is not distinctively different from that worn in Western countries. Children's clothing is fairly Westernized, except that school uniforms are generally worn and traditional kimonos are reserved for special uses. While many



DOMESTIC AVAILABILITY OF COTTON AND MANMADE TEXTILES



of the items of clothing are cotton, some are made of wool, silk, or manmade fibers.

Some changes in consumption patterns are emerging. There is a growing practice of discarding clothing, instead of replacing it only when it is completely worn out. Style has become a much more important factor in consumer's choices and probably contributes to the tendency to "throw out" rather than to "wear out". The higher prices paid by consumers for noncellulosic manmade fiber products had been in some case rationalized on the basis of their presumed longer life, a concept not valid when emphasis is placed on style.

A change in housing standards also explains some of the expansion in textile consumption. The use of household textiles was not well developed before World War II, because of the Japanese style of houses, which demands little by way of textile furnishings. Rice straw mats (*tatami*) which cover the floor, rice paper screens (*shoji*) which decorate the window area, a bureau, a low table, and a few cushions (*zabuton*) are the only furnishings in most Japanese rooms. Bedding, usually placed directly on the floor, consists of mattresses, of quilts filled with cotton, of sheets, and a small pillow. Room furnishings made of textiles before the war were used in Japan mostly by the Imperial Household, and in hotels, theaters, railway coaches, and office buildings. Since the war, however, development of apartment buildings (patterned in many cases after a Western mode of life) has increased demand for household textiles; this trend can be expected to continue as the relative number of Western style abodes compared to those of Japanese style increases.

By the late 1950's, total consumption of textile fibers for domestic industrial use was about double the quantities of the earlier years of that decade. Major industrial uses for cotton yarn in Japan are for manufacture of tires, fish nets, and fishing tackle, and as insulation for electric wiring. Increased production of bicycles and of motor vehicles in Japan has spurred demand for cotton tire cord and tire fabric, which has now become the largest single industrial outlet for cotton yarn. Growing quantities of rayon tire cord and nylon tire cord have been competing for some portions of the tire cord market. Formerly, fish nets and tackle constituted the largest end-use markets for industrial uses of cotton yarn; however, manmade fiber products have also made serious inroads into this market so that only about half as much cotton is now used for this purpose as a decade ago.

## Export Market

Japan is an island country of limited land and resources. The Japanese Government long ago realized that, in order to prosper, Japan had to develop into a manufacturing and exporting nation, even though exports of manufactured products would in many cases

depend on imported raw materials. Japan has followed this course of action, and has for years been one of the major trading nations of the world, exporting in 1964 goods valued at almost \$6.7 billion.

Textile products of all types have traditionally constituted the largest single commodity group in Japan's export trade and for a number of years about one-half of Japan's exports. Now, at about one-fifth of the total, textiles continue to be a significant although declining share, as iron and steel, machinery, and other manufactured goods gain in importance.

In 1964, Japan exported textile products valued at \$1.4 billion, constituted principally as follows:

Textile products	Units	Quantity	Value	Percent of total value
			<i>Mil. dol.</i>	<i>Percent</i>
Raw silk -----	Mil. lb.---	5. 0	26. 9	1. 9
Rayon staple fiber -----	--do ----	191. 8	40. 5	2. 9
Cotton yarn -----	--do ----	37. 1	25. 1	1. 8
Rayon filament yarn -----	--do ----	40. 0	20. 8	1. 5
Spun rayon yarn -----	--do ----	8. 3	4. 4	. 3
Cotton fabrics -----	Sq. yd.---	1, 186. 1	312. 0	22. 3
Silk fabrics -----	--do ----	58. 4	49. 1	3. 5
Woolen fabrics -----	--do ----	46. 1	64. 0	4. 6
Rayon fabrics -----	--do ----	227. 7	65. 7	4. 7
Spun rayon fabrics -----	--do ----	414. 8	85. 6	6. 1
Noncellulosic fabrics -----	--do ----	315. 7	137. 7	9. 8
Clothing -----	--do ----	-----	251. 9	18. 0

Source: Japanese Economic Statistics, Economic Planning Agency, Japanese Government, January 1965.

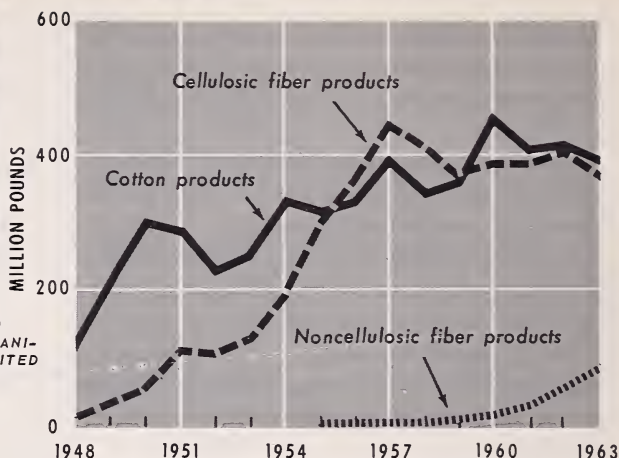
Japan's exports of cotton fabrics have been just under 1.5 billion square yards annually since 1960, when the rapid postwar buildup of cotton fabric exports began to level. In 1963, they dropped over 20 percent from 1962, and have not recovered. For many years before 1960, cotton yarn exports had been in the range of 20 to 30 million pounds; that year, they more than tripled as the result of special "triangular arrangements" with Indonesia, but have not been sustained at that high level. Rayon staple fiber exports have risen sharply, from less than 1 million pounds in the early postwar years to over 191 million pounds in 1964; while exports of filament yarn, which moved into prominence in 1949, reached only 40 million pounds in 1964. Export shipments of rayon fabrics of all kinds have fallen considerably below the levels attained in the mid-1950's.

Japan's textile products move to practically every country of the world. Many of Japan's most important markets are among the less developed countries of the world. The United States has for years been the major market for Japanese textile products, and continues to maintain this position, despite arrangements between the Japanese and the U.S. Governments as to the volume of Japanese cotton good exports



## Japan

### EXPORTS OF COTTON AND MANMADE FIBER TEXTILES



SOURCE: FOOD AND  
AGRICULTURE ORGANI-  
ZATION OF THE UNITED  
NATIONS.

to the United States. Many other developed countries, particularly in Western Europe, have accepted relatively small quantities of Japanese textile goods because of high tariffs, quota arrangements, and other nontariff trade barriers that are used effectively to provide protection for their own industries.

## Cotton Products

Japan's cotton textile export market constitutes a complex network formed by an endless variety of items and a vast number of markets throughout the world. In some years, cotton products have accounted for over 25 percent of the value of all products exported from Japan. They have long been the most important single category of textile goods. Recently, of all textile products exported, cotton yarns, fabrics, and clothing amounted to about 40 percent by value. The relative importance of cotton yarns and fabrics is declining, however, while other manufactured cotton products are assuming greater prominence. Although cotton fabrics have been a declining percentage of total exports, the actual volume exported has expanded almost without interruption during the postwar period.

Japan sells cotton piece goods to virtually every country of the world, but traditionally almost half has been shipped to countries of Asia, particularly Hong Kong, Thailand, Singapore, Indonesia, and Ceylon. While the quantity has remained relatively stable, the relative importance of Asian markets for cotton piece goods has dropped to about 40 percent of Japan's total since 1960, as shipments to African countries have gained in importance.

Although African markets had been relatively unimportant until



# Japan

## EXPORTS OF COTTON CLOTH, BY MARKET AREA

(value)

\*360 Japanese yen = U.S. \$1.00.

SOURCE: JAPANESE COTTON SPINNING INDUSTRY.

ASIA

AFRICA

MIL. YEN\*

60

40

20

0

1964

1961

1958

1955

1964

1961

1958

1955

EUROPE

MIL. YEN\*

60

UNITED STATES

MIL. YEN\*

60

OTHERS

40

20

0

1964

1961

1958

1955

1964

1961

1958

1955

1964

1961

1958

1955

about 1960, the breaking of colonial ties, and other factors, have recently resulted in an upsurge of shipments to that continent until in 1964 the African market accounted for about 20 percent of Japan's total shipments of cotton piece goods. Nigeria has long been the largest single African market, taking an average of about \$25 million annually in the 4-year period 1960 through 1963; Nigerian imports dropped drastically, however, in 1964 as local production expanded sharply. The Republic of South Africa is Japan's next largest African customer for cotton piece goods. The Sudan, Ethiopia, Ghana, and the countries formerly comprising British East Africa, also share largely in Japan's African business.

An important aspect of the Asian and African markets is the relatively low per capita income of consumers; therefore, the level of prices is of extreme significance with respect to sales in such areas. The shipment of more advanced textile items is relatively small to these Asian and African markets with the exception of the Republic of South Africa.

About 10 percent of Japan's cotton fabric exports are shipped to Australia, a little less than 10 percent to the United States, and about 10 percent to all of the countries of Western Europe. The United States is, however, Japan's largest market for manufactured textile products of all types, particularly cotton blouses and skirts, coats and slacks of wool and other fibers, and scarves of silk and manmade fibers. Knitwear of various fibers has also loomed large in Japan's exports to the United States.

In addition to cotton fabrics and made-up goods, Japan also exports large quantities of cotton yarn, which in 1964 totaled 37.1 million pounds valued at \$25.1 million. Almost all Japan's cotton yarn exports have traditionally gone to the countries of Asia. That continent remains the most important outlet.

It has been estimated that about half of Japan's cotton textile exports go to countries with annual per capita incomes of \$80 or below, about 15 percent to countries where incomes are between \$80 and \$300, and about 35 percent to the countries with per capita incomes of over \$300. Especially at the lowest end of this scale, the price level of textile products has an important bearing on consumption.

In recent years, Japan has experienced increasing difficulty in expanding its exports to its traditional markets. One reason is the competition from imports from lower priced Asian producers; another is the development of local industries in some of the emerging nations; still another is the chronic adverse trade balance on the part of many African countries trading with Japan. Increased exports of cotton textiles from some low-cost Asian producers, particularly Hong Kong<sup>4</sup> and

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<sup>4</sup> It may perhaps seem ironic that while Hong Kong is one of Japan's largest customers for cotton goods and other textile products, Hong Kong is one of Japan's chief competitors in third markets. However, much of the Japanese fabric shipped to Hong Kong is further processed and exported.

Communist China, have given Japan severe competition in international markets. For example, Communist China supplied about 6 percent of Indonesia's total cotton textile imports in 1958 but increased to 48 percent (by value) in 1962. Hong Kong also supplied large quantities of cotton textiles to Indonesia. Japan's share, on the other hand, has fallen from about 50 percent in the years 1953 and 1954, to less than 15 percent in 1962.

Long-term credit, low prices, and bilateral trade agreements between low-cost textile producing countries and prospective markets often determine the choice of suppliers. State-trading agreements of Communist China and other Communist sources also influence the flow of international trade in cotton textiles. To some extent, Japanese textile shippers are benefited by low-cost financing of raw cotton through U.S. Export-Import Bank credits and CCC credit purchases, which enable them to better meet competition from these sources. "Triangular" deals under Public Law 480, by means of which U.S. cotton is processed in Japan and cotton textiles shipped to third markets, have also helped Japan retain a share of the cotton textile business in specific markets.

The move toward industrialization in many of Japan's markets also has a direct bearing on cotton textile exports. Almost all the Japanese markets in Asia and Africa are still in a state of underdevelopment; but a number of the most important are slowly moving away from an economy based entirely upon agriculture toward industrialization. Many underdeveloped countries have taken their first steps toward industrialization by the establishment of a textile industry, often on the basis of utilizing indigenous raw cotton.

Between 1950 and 1960, Taiwan, South Korea, and Pakistan moved from net importer to net exporter positions. A number of other countries that have been among Japan's most important markets are expanding their own textile production and may in the short run move to lessen the impact of imports in their home markets. For example, in Asia, Japan's largest markets have been Hong Kong, the Philippine Republic, Indonesia, South Vietnam, Singapore, Thailand, Burma, and Ceylon. Almost without exception, each has greatly expanded its own cotton textile production facilities in recent years. In Africa, Japan's largest markets have been the Republic of South Africa, Nigeria, Ethiopia, Ghana, and the Sudan. Most of these countries have also started to develop their production facilities for cotton textiles or to expand those already existing. Some have already taken protective action for their industries against imports, especially imports that would be directly competitive with the product of their own mills.

## **Cotton Textile Arrangements**

Also bearing on Japan's export trade has been the Long-Term Cotton Textile Arrangement, an international agreement concerning trade in



cotton textiles concluded between the major exporting and importing nations in 1962. Through this instrument, many of the countries of Western Europe are making available increasing access to their markets, which had been virtually closed to Japanese textiles through withholding of the most-favored-nations status under the General Agreements on Tariff and Trade (GATT), Article XXXV, and through nontariff trade barriers of various kinds. Even though Japan may find it progressively difficult to enlarge export markets in developing countries, there is some chance that an increased volume will flow to some industrialized countries.

The Long-Term Arrangement for cotton textiles was preceded by a series of voluntary controls on exports for various types of goods, including cotton textile products. These arrangements by Japan probably prevented some short-term growth of Japan's exports to certain markets. The voluntary agreements of the industry and the Geneva arrangements entered into by the government may have, in the long-term, preserved for Japan a greater volume of foreign markets for cotton, rayon, and other types of textile goods than would have otherwise been possible, by providing the mechanism for orderly sales of Japanese textiles into markets, especially the United States, the disruption of which might have brought heavy domestic pressures for more government restrictions. Moreover, the Long-Term Arrangement has brought some measure of control to the rapidly expanding exports of newer supplying countries that were offering severe competition to Japan, especially in industrial countries.

Since the LTA has been in effect, Japan's exports to a number of its most important industrialized markets have expanded moderately, but exports to some have dropped probably as a result of market factors rather than the operation of restraints. On the other hand, exports of apparel and other more highly processed items have expanded to industrialized countries and in total. In contrast, Japanese exports of manmade fiber textiles, which are not being regulated by the Long-Term Arrangement, have increased sharply.

## **Manmade Fiber Products**

Although cotton products overshadow all other textile items in the export trade of Japan, manmade fiber products of all types are of growing importance. In recent years, manmade fiber products of all kinds have amounted to about 35 percent of the value of all textile products exported. Generally, less than 10 percent of the manmade fiber filament and staple yarns produced in Japan are exported. However, for a number of years, more manmade fiber yarn has been exported than cotton yarn. In 1964 the largest markets for Japanese manmade fiber yarns were the U. S. S. R., South Vietnam, Mainland China, South Korea, and Pakistan.



Japan has also exported large quantities of rayon filament and spun rayon fabrics, but the export volume of these goods has dropped substantially from the peak of 1957. Many of these fabrics are sold in Africa, particularly in the Republic of South Africa, Nigeria, and the countries formerly known as British East Africa, although large quantities also go to the Philippines, Hong Kong, Singapore, and other Far Eastern destinations. In recent years, the United States has been a large market for rayon filament goods, taking about 10 percent of Japan's total exports of this type of goods. Wax prints, originally from the "Dutch East Indies" and traditionally made from cotton, have been an attractive item in the African markets on a spun rayon fabric base. These and other spun rayon fabrics are sold with advertising slogans, such as "cottonized finishes" in direct competition with cotton products; their prices are lower than those of similar cotton goods. In 1964, the average unit value of spun rayon fabrics exported was 20.6 cents per yard and of rayon filament fabrics 28.9 cents per yard, compared to 26.3 cents per yard for cotton fabrics.

Noncellulosic fabrics are gaining an increasingly important place in Japan's export trade, although still only one-half the quantity of cellulosic fabrics exported in 1964. As in the case of other textile items, Japan's exports of noncellulosic fabrics go to many destinations, the main ones being Hong Kong, Thailand, the United States, Singapore, and the Republic of South Africa, yet the quantity shipped to these five major markets is only about half of the total, which is spread into many other countries.

Since the average unit value of noncellulosic fabrics exported in 1964 was less than 43.6 cents per yard, it may be assumed that the noncellulosic fabric shipped into these markets continued to be large quantities of fairly low-quality fabrics. Despite the relatively low unit value, however, the total value of noncellulosic fabrics exported in 1964 exceeded the export value of a number of other important items in the textile field, namely raw silk, rayon staple fiber, yarn of all kinds, and fabrics of all kinds except cotton.

## Role of Government

The Japanese Government exerts important influences on the composition of textile fiber production and use in Japan, but this influence is less direct and less important than formerly. As in many other countries, these influences have been brought to bear through economic plans, fiscal and monetary measures, production controls, trade controls, trade agreements, and other measures.

The several areas of government interest in the textile industry today can be traced to the emergency measures that were employed at various times in the past. The Japanese Government's favored treatment of the manmade fiber industry undoubtedly reflects the

encouragement given to it in the pre-World-War-II period (and during the war itself) and the reliance that had to be placed upon it as well as the persuasiveness of leaders in the industry. Spokesmen for the industry within government advisory councils and elsewhere make it difficult for officials to forget that Japan's sources for raw cotton are separated from Japan by miles of ocean, while many raw materials for manmade fibers are available domestically.

As a result, the government has followed a policy, during the post-war period, of actively encouraging expansion of the manmade fiber industry, particularly the production of noncellulosics. This encouragement of the noncellulosic segment has involved both outright Government grants and liberal tax treatment. Until 1957, tax incentives included exemption from corporate profit taxes for 3 years and advantageous amortization rates for new equipment. The Japanese Government reviews industry plans for capital expenditures, and is therefore in a position to direct expansion, stabilization, or contraction of various segments of both the manmade fiber and textile industries, or at least to influence them. The Bank of Japan, a quasi-governmental institution, is also an important factor in loans to business firms. Government specifications require much of the clothing used by the police reserve force of 300,000 to be blended fabrics containing manmade fibers. Several other important areas in which the government has influenced the relative position of certain segments of the industries are examined in greater detail below.

## Economic Plans

The original "Five-year Plan for Economic Independence", which established a blueprint for all segments of the Japanese economy, for Japanese fiscal years 1956-60, stated that natural fiber goods "are to be emphasized as exports whilst chemical and synthetic fibers will be increased in production to meet domestic demands. \* \* \* As a result, the ratio of consumption of natural fibers against artificial fibers will be 6 to 4 in 1960 as compared with the ratio of 7 to 3 in 1954, so contributing to the self-sufficiency of the fiber industry". The plan further expanded upon encouragement of manmade fiber consumption both for domestic and export markets, and discouragement of domestic consumption of natural fibers.

Later revisions of the Government's plans and goals continued this policy. The "Plan to Double the National Income"<sup>5</sup> indicated, "Especially as regards the textile and manmade fiber industry, it is expected that the proportion of chemical fiber products as against the total output will reach almost 50 percent because of a rapid increase in the production of synthetic fibers."

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<sup>5</sup> The New Long-Range Economic Plan of Japan (1961-70), Economic Planning Agency, Japanese Government.

The distribution of manmade fibers and textile products as projected by the income doubling plan is 30 percent for export and 70 percent for domestic consumption. But by 1964 these plans appeared conservative from the standpoint of manmade fiber consumption. Then the Japanese Government in projections for 1968 estimated that cotton will constitute less than 30 percent of the fibers used by the textile industry that year. The softness in the market situation for noncellulosics that developed in 1964 and intensified in 1965 throws doubt on these projections. However, should these projections be realized, the relationship between cotton and manmade fibers by 1968 would be roughly the reverse of the proportions held by each in 1952. Compared with actual consumption in 1963, the 1968 projections foresee a drop in the ratio for cotton from 38 to 29 percent, declines of 3 percentage points in the relative positions of rayon filament and staple, and the continued expansion of noncellulosics from 20 to 35 percent of total fiber consumed. In view of expected expansion of total fiber consumption, however, cotton consumption, although a declining share of the total, is expected to rise.

## Production Controls

By 1951, the textile industry was freed of most control that had been instituted because of balance-of-payments problems, but overexpansion in the textile industry relative to effective demand became evident in 1955 and seemed to require government intervention.

From October 1956 to October 1964, the Textile Industry Equipment Temporary Adjustment Law provided the mechanism by which the Japanese Government restricted use of spinning equipment to prescribed levels by means of curtailment rates. Spinning equipment was declared by the owners to be used for cotton, viscose staple, noncellulosics, or other fibers, and could not be used for spinning yarns other than those designated. Under this law, no net increase in equipment was allowed; new companies could be established only by absorbing old companies. There was no compensation to companies for possible loss of revenue through compliance with the curtailment regulations; nor was there any program for purchase by government of idle spinning equipment.

A revision in 1960 established a flexible arrangement for adjusting production by means of short-term "sealing" of equipment based on demand in a current year in addition to the long-term "mothballing" based upon longer range demand projections. The main objective of the revision was to provide a system to meet the conditions arising from liberalization of cotton on April 1, 1962, when control by the issuance of foreign exchange allocations for cotton importation was discontinued.

As of October 1, 1964, the New Textile Industry Equipment Tempo-



rary Adjustment Law became effective. It controls the use, as well as the installation, of spinning and tentering equipment. One of the major features is the grouping of spindles into four categories: (1) Cotton, rayon and noncellulosic; (2) worsted; (3) silk, thrown silk, and woolen (as contrasted to worsted); and (4) a category for newly registered spindles.<sup>6</sup> Important from the standpoint of inter-fiber competition is the fact that under the new law the spindles in each group may be used interchangeably. Thus, in contrast to the earlier system in which spindles were designated for yarns of cotton, or other specified fibers, spindles registered under the first category may spin yarns of either cotton, rayon, noncellulosics, or their blends. While this change affords more flexibility from an operating standpoint, overproduction of specific types of yarns can occur more easily than under the previous regulations.

The new legislation also requires the industry to continue to set aside the number of spindles considered redundant to the capacity required to meet short-range demand. This curtailment rate was 25 percent for cotton spindles, 21.4 percent for the rayon spindles, and 35.7 percent for wool spindles. In order to meet the anticipated expanded long-range demand, spinners are permitted to install new spindles or to utilize mothballed spindles provided that they "scrap" twice as many. There is no purchase provision, or other compensation for this scrapped equipment. The net effect of the new law has been to increase the number of active spindles, a situation contrary to trends in other industrialized countries.

The new law also frees the manmade fiber industry from controls that had existed with respect to production of rayon staple and filament. This new legislation runs for 4 years. During 1968, it is expected that the division of spinning equipment into four groups will be abandoned, and that the industry will enter a period of complete flexibility with respect to the use of spinning equipment as well as relative freedom from Government control over production. However, by the end of the first year further cutbacks were instituted by the industry and plans for additional government controls and assistance were being discussed.

In addition to the controls exercised over spindles, the Small and Medium-Sized Enterprises Stabilization Law of 1955 governed the number of weaving looms that could be used. Looms were divided into four major categories, and their use within each category was interchangeable. Looms weaving cotton and spun rayon yarns were subjected to more severe cutbacks than looms weaving yarns of silk, rayon filament, worsted, wool, and noncellulosics. Some funds have been available to the government for the purchase of surplus looms.

When the Temporary Adjustment Law was revised in 1959, expan-

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<sup>6</sup> It has been estimated that there were about 1.6 million "unregistered" spindles, operating illegally under the old law, which are now registered in category 4.



sion of production capacity for manmade fibers was made subject to governmental approval in an effort to avoid industry overexpansion. Production of both rayon staple and rayon filament was curtailed, but there was no restriction on production of other manmade fibers.

Controls have also been exercised over production of rayon staple fiber and rayon filament yarn. These restrictions have had the force of an "administrative recommendation" of the government rather than a law. Such "recommendations" were put into effect by industry associations which exercise considerable control over companies within an industry with approval of the government. Although such concerted action bears the characteristics of cartelization, industry associations are exempt from the antimonopoly laws of Japan, and form a convenient device for government regulation of activities of an industry.

## Trade and Monetary Controls

In the past, as an outgrowth of balance-of-payment difficulties, the government had a strong hand in the regulation of imports affecting amounts and kinds of materials that could be brought into Japan. Import controls were maintained on practically all items until April 1, 1961, when Japan removed quotas and foreign exchange restrictions on many materials, including raw cotton. With the relaxation of import controls, U.S. cotton gained more ready access to the Japanese market. The end of the allocation system for cotton in 1961 removed the incentive for sale and payment of premiums for import permits, a practice which had developed when cotton was difficult to obtain.

During most of the postwar period, bilateral trade agreements between Japan and many other countries directed, to some extent, the flow of cotton, rayon pulp, and other items into Japan. Later, these trade arrangements became simply broad understandings indicating commodities to be exchanged without stipulation of either quantities exchanged or the currency for effecting payment. As of 1964, the Japanese Government had bilateral trade agreements with South Korea only. In theory, cotton is free to be supplied from any source country. In April 1964, Japan's adherence to article VIII of the International Monetary Fund (IMF) and membership in the Organization for Economic Cooperation and Development (OECD) moved Japan closer to an open economy with respect to current and capital transactions with foreign countries. In light of these changes, the Japanese Government raised from 1 percent to 5 percent prior cash deposit requirements on foreign letters of credit used in the purchase of both raw cotton and pulp for rayon manufacture. While these moves ushered in a new era of liberalized trading conditions for Japan, there is always the possibility that imports of cotton, as well as of other commodities accorded liberalized status, may be directed from certain countries because of political or fiscal rather than economic reasons.

Export controls, exercised by the textile industry under authority and approval of the government, may also have played a part in the relative position of cotton and manmade fiber production in Japan. Under such "voluntary controls", the Japanese textile industry established quotas on the export of cotton, spun rayon, and wool goods to a number of markets and marketing areas.<sup>7</sup> The Short-Term and Long-Term Cotton Textile Arrangements entered into in Geneva by the Japanese Government, in 1961 and 1962, provided an opportunity for limited growth of cotton textile exports to some markets (particularly Western Europe, where rigid controls had been exercised), and for orderly expansion of exports into other industrialized markets. Effects of the agreements will be further analyzed in the section on "Prospects in the Export Market".

While not in the nature of controls as such, the various export incentive schemes of the government were factors that influenced the production and export of some commodities, including certain kinds of textiles. Various devices were available to assist in exports of many commodities, such as an export insurance system, and export foreign exchange retention system, special taxation measures relating to export earnings, special low interest rate loans for export financing, and the like. For some time, the most important direct benefit to textile exporters, however, was the "export link system" which provided special foreign exchange allocations with which to purchase raw materials contained in their manufacture—raw cotton in the case of cotton textiles, rayon pulp in the case of rayon textiles, and raw wool in the case of woolen textiles. The export link system was discontinued on April 1, 1961, with the liberalization of cotton, wool, and rayon pulp. But while the link system was in effect, it was a strong incentive for the promotion of exports.

There are some government measures that do not directly affect inter-fiber competition, but contribute to export sales of all textiles. For example, government subsidies have been available since 1951 for trade promotion overseas, usually through the Japan Export Trade Research Organization (JETRO).<sup>8</sup> These funds are not generally granted for the promotion of any single item of export. In addition, "quality inspection" for goods intended for export is conducted by the Inspection Foundation Institution under Government supervision and is intended to avoid Japan's prewar reputation as a supplier of cheap and sometimes shoddy merchandise.

The government has also accorded the Japanese cotton textile industry assistance in the financing and acquisition of raw cotton in a number of ways; these are discussed under the section of this study on raw material supply.

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<sup>7</sup> Voluntary controls have also been exercised with respect to the export of a number of nontextile items.

<sup>8</sup> Formerly called the Japan External Trade Recovery Organization.

# Role of Economic Structures Industry

The Japanese textile industry is outstanding among textile industries of the world. It derives a unique character from a number of factors, many not present elsewhere. Among these are: (1) A tradition of multiple shift, high-level production, the like of which exists in few other countries; (2) the three fairly distinct sizes of cotton spinning companies; (3) the very large numbers of independent weavers; (4) the substantial dependence of borrowed capital and the export market; and (5) the sale of products through trading companies. Vertical integration of spinning companies, backward to the manmade fiber production stage, and forward to the apparel production stage, also seems to be more advanced in Japan than in most other important textile producing countries. The resulting structure gives rise to a certain degree of adaptability within the industry, while at the same time causing some unexpected rigidities in management decisions in some areas.

Since the close of World War II, borrowed capital has played an important role in the economic life of Japan. In 1962, the equity/debt ratio of Japanese corporations was 30/70, roughly the reverse of the American situation. Japanese textile companies and other corporations have generally found it impossible to finance investment through retained earnings, despite great efforts to plow back profits. In the early postwar years, longterm interest rates were around 13 percent, but these are now down to around 8 percent.

Japanese producers of manmade fibers often have the financial backing of other basic Japanese industries, such as pulp, sulphur, and petrochemical, and of large foreign investors. Doubtless this situation has influenced management decisions concerning expansion or contraction of facilities in the fiber field. In view of the heavy investment required for the production of manmade fibers, and the record breaking expansion in the postwar years (especially with respect to noncellulosic production), it is apparent that financiers have been willing to make substantial loans for the production of manmade fibers in Japan.

It is estimated that the Big Ten operate with about 40 percent of their own capital and about 60 percent borrowed capital funds, and that smaller companies use an even higher proportion of borrowed capital. A large part of most other operations beyond spinning is also conducted with substantial quantities of borrowed capital or on a commission basis.

Cotton purchase financing is also an important aspect of interfiber competition. Prior to April 1, 1961, when cotton was subject to import allocation, import authorization documents were readily accepted by lenders as security for cotton purchase loans. As a result, small





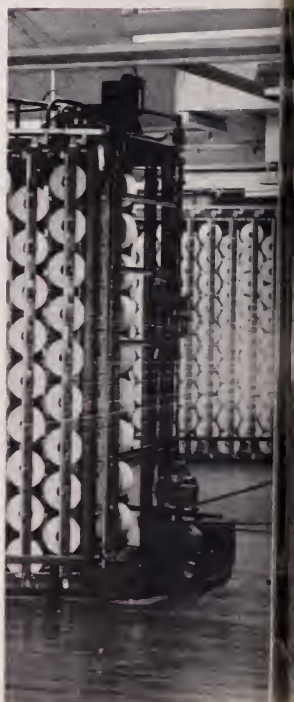
**Card sliver**



**Modern mill equipment. Above, clean cotton in picker laps fed to carding engines form card sliver. Above center, card slivers blended and paralleled form drawing sliver. Above right, after further processing, cotton in roving form drawn and twisted on spinning frame makes yarn. Below, super-high-draft sliver-to-yarn spinning eliminates roving processes. Right, warp yarn prepared on beams before weaving. Next, cloth inspection.**



**Sliver to yarn**







Drawing sliver



Roving to yarn



Warp yarn



Inspection

spinners and other small buyers of cotton could obtain credit. When the import allocation system was discontinued, the loans of these small buyers were made on the basis of customary criteria instead of on the basis of the import document representing a readily salable commodity. After liberalization was announced, a number of small buyers went out of business or combined to form more economically viable units. Cotton spinners have also relied upon the cotton purchase loans, at relatively low interest rates, that have been available through the Export-Import Bank. It is apparent that Japanese money sources can influence or control basic decisions with respect to the development and operation of textile companies in Japan.

Each of the Big Ten is in a position to finance projects involving both pure and applied research, as well as to undertake the production of new products that through time promise to be a source of profit. The powerful financial interests involved in each of the Big Ten make possible a diversified complex of companies that are of appreciable assistance to one another. As a result of their sheer size, their heavy commitment of capital, and their responsibilities to labor, the Big Ten are less flexible than small firms and are, therefore, not as able to follow the quick turns in the market. This is perhaps one of the reasons why these large companies have made special efforts to foster industry cooperation and government regulation. On the other hand, small spinning companies and weavers are able to create yarns and fabrics to meet the demand for specialty items and fancy goods that are adaptable to smaller "runs". Such items may be economically unfeasible for a high-volume producer. Data concerning the types of yarns put into process by the spinning companies with weaving departments compared with the types of yarns put into process by the independent weavers indicates the flexibility of the latter group.

Several of the major spinning companies have, through affiliations with textile machinery manufacturers, developed continuous and automated cotton spinning systems by which the processing of raw cotton from the bale to the yarn stage is achieved with a minimum of interruption for the transfer of laps, sliver, and roving from one processing step to the next. It is claimed that these systems reduce labor costs to about 50 percent of those of conventional spinning systems. Labor costs represent a substantial portion of total cost in the production of yarn, even in Japan. Despite the higher initial investment required for the continuous automated spinning systems and the higher operating costs resulting from increased consumption of electricity in their operation, it is claimed that these continuous automated systems result in lower total production costs for yarn. Since being introduced in 1960, continuous automated systems have been installed for a relatively small share of Japan's total spinning equipment by large companies with resources to finance such expensive modernization. However, the use of highly automated equipment may be expected to expand.

Another outgrowth of the industry structure is the fairly recent trend of some of the Big Ten spinning companies to move into the manufacture of brand-name end-products. This development may exert some influence on the choice of fibers for clothing and household goods, in favor of manmade fibers, in view of the manufacture of manmade fibers by these same companies.

Many of the companies producing manmade fibers in Japan are very large enterprises, and many produce more than one type of manmade fiber. All of the Big Ten spinners also manufacture manmade fibers. Manmade fiber companies are also associated with many other companies, often large chemical firms. Large-scale production facilities are necessary for the profitable operation of manmade fiber plants. Facilities committed to the production of one type of manmade fiber are not adaptable for other uses without large financial outlay; consequently, such changes are not frequently made. Japanese companies have dealt with this problem by the curtailment of rayon staple and filament production, although at the same time production facilities for other new types of noncellulosics were being expanded.

An economic factor that may affect interfiber competition in Japan is the existence of the "zaibatsu", groups of affiliated companies cutting across lines of business activities—for example, manufacturing, insurance, finance, and shipping—among which companies there are interlocking stockholdings. Characteristically, these groups involve personal, monetary, and legal ties, with coordination of activities and cooperation between the entities resulting therefrom. At present, there are three zaibatsu groups: the Mitsui, the Mitsubishi, and the Sumitomo. In spite of the zaibatsu's importance, however, a number of very large and successful firms operate outside of zaibatsu groups.

While some cotton spinning firms are zaibatsu members, each group involves at least one or more of the manmade fiber producers. Toyo Rayon is a member of the Mitsui group. It is believed that this group's interest in the manmade fiber field may be directed toward expansion in chemical products, particularly petrochemical raw materials, which are the basis of important and relatively new noncellulosic fibers. Mitsubishi Rayon, Mitsubishi Acetate Company, and Mitsubishi Vonnell Company are a part of the Mitsubishi group. Nippon Exlan and Nippon Glass Fiber form a part of the Sumitomo group, which group also has interests in petrochemicals and some indirect relationships with cotton spinning firms, particularly Toyobo. Of the three, the Mitsui group seems to be the most heavily committed in the textile field.

It is impossible to evaluate quantitatively the degree to which group loyalty plays a part in interfiber competition, but it is quite likely that somewhat different forces affect the management decisions of cotton textile mills related to the large economic complexes than affect those of cotton mills not so related. Membership in such large



complexes offers advantages but also places certain obligations upon a textile manufacturer. While there might be a greater assurance of raw material supply in times of shortage, there would also be an obligation to accept deliveries in times of plenty. While preferential financial support would be assured, there would be an obligation to show an appropriate measure of profit, some of which would presumably benefit the group. While outlets for manufactured products would be assured in times of ample supply, there would be an obligation to supply affiliates, regardless of the possibility of greater profits elsewhere, in times of shortage. In this connection, the affiliations of the several large manmade fiber firms would seem to indicate continued pressure for expanded output of manmade fibers. It is believed that Japanese spinning companies have no direct connection with cotton producing firms in foreign countries, and would therefore not be subject to the same pressures on behalf of raw cotton. It is possible, however, that the type and volume of their output would be influenced by any such business connections and by the trading companies through which they dispose of their goods.

## Trade Organizations

In Japan there are a large number of trade associations that exert a considerable influence on the affairs of both business and Government. The most venerable of the trade associations in the textile field is the Japan Spinners' Association.<sup>9</sup> There are numerous others that operate in specialized areas in the cotton, silk, wool, and manmade sectors of the textile industry. Together, they bring "harmonious balance" within the various segments of the industry, as the need requires. Firms may belong to several such organizations that represent their interests on different fronts and on different issues. Historically, the Japan Spinners' Association and the other textile trade associations frequently operated as cartels to enforce production, market, and price regulations upon their membership. Their objective was to further common business interests by limiting competition to manageable levels. It is the opinion of many Japanese textile experts that these associations and the arrangements arising from them contributed greatly to the development of the cotton industry in Japan.

Although membership in organizations like the Japan Spinners' Association has been voluntary rather than compulsory, relatively few important companies have remained outside the organizations operating in their respective fields because of the strategic importance of the groups and the pressures that could be brought to bear on nonconformists. Firms becoming members of industry associations assume certain obligations that govern the activities of the industry. Before World War II, Japanese firms were not limited by anticartel or antimonopoly

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<sup>9</sup> Known as The All Japan Cotton Spinners' Association until April 1964.



laws such as the Sherman Anti-Trust Act and the Clayton Act, which operate in the United States.

In times of severe stress, when the industry associations could not agree on a course of action or obtain compliance from firms in the industry, they developed plans for self-government and appealed to the Japanese Government for assistance and authority to make their plans compulsory upon their industry. The evolutionary result of this step has been for the associations to move from a position of controlling the industry through the pressure of group action toward a position of acting as agents for the government in carrying out production, inspection, and export controls established by the government, as they were needed at any particular time. On occasions, the government has assumed the initiative, but in such instances it acts with the advice and counsel of the various industry groups.

Since World War II, the government has sought the views of the industry through its trade organizations, sometimes bringing them together in advisory councils to formulate and to test out proposed government policy. It is significant that the Textile Industry Equipment Laws have provided for specific exemption of the industry associations from the postwar antitrust laws which would have otherwise prevented effective industry self-regulation.

The power and influence of the industry association can be understood by a short review of activities of the Japan Spinners' Association, which has operated since it was first organized in 1882, despite several changes in name and in scope of activity. According to Keizo Seki,<sup>10</sup> the activities of this organization may be summarized as follows:

"The Association made many major contributions to the industry through its extensive surveys and research studies. Among these contributions were the directing and assisting of the industry on raw materials programs, the joint purchasing of raw cotton, the joint transportation of Indian cotton, and the testing of Chinese cotton for humidity. It brought about improved trade practices and improved techniques for quality inspection of cotton yarn. It played a spectacular part in the many countermeasures required at times when markets were disrupted and in the joint sales campaigns that were put on to maintain export prices of cotton yarn and fabric, and it maintained liaison and cooperative activities with various allied industries. \* \* \*

"It played a major part in cotton trade conferences where agreements were concluded in many cases to promote the overseas sales of Japan's cotton goods."

The Japan Spinners' Association has also initiated requests for Export-Import Bank Loans for the purchase of cotton from the United States. This association and others in the textile field have dramatized

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<sup>10</sup> *The Cotton Industry of Japan—Its Past, Present and Future* by Keizo Seki, Japan Society for the Promotion of Science, Tokyo, 1956.

the popularity or unpopularity of proposed actions of their own or of foreign governments by concerted group action. They are generally regarded as spokesmen for the segment of the industry they represent. However, in view of the flexibility of operation permitted under the New Textile Industry Equipment Temporary Adjustment Law, the distinctions between the various spinning groups based on fiber will probably diminish.

The Japan Spinners' Association and five other cotton organizations joined to form the Japan Cotton Promotion Institute to further cotton market development work in Japan. The Japan Chemical Fibres Association has also conducted campaigns for the promotion of man-made fiber products and products of manmade fibers blended with cotton. The Japan Chemical Fibres Association must also pass on any plans of producers to expand production capacity in the manmade fiber field, thus supplementing the government's role in this area. Companies spinning both cotton and manmade fibers are members of both organizations, and any others that might further their business interests. By these various means, the activities of the trade associations are both direct and indirect factors in interfiber competition in Japan.

## Trading Companies

An economic phenomenon unique to Japan is the existence of trading companies. The functions of the trading companies are manifold but there is variation in their practices. They act as a central supply system between manufacturers and wholesalers in the domestic market. Some buy and sell while others operate as brokers or commission agents. They frequently provide credit to manufacturers for the purchase of raw materials. Some of the larger trading companies provide manufacturers with a global sales organization, skilled in the specialized requirements of individual countries. According to the Ministry of International Trade and Industry, more than 80 percent of all Japanese exports and 85 percent of all imports are handled by trading companies; percentages for textiles are not available.

As in the case of cotton mills, some trading companies are large and diversified, others are small and specialized. The relative strengths and weaknesses of cotton mills and trading companies—in their trading with one another—are influenced by the relative sizes and economic influence of the respective trading partners in any given market situation.

Hundreds of large trading companies operate in the Kansai area around Osaka, and other industrial areas of Japan. In addition, there are other trading firms that have come into being since the end of World War II. In 1963, the total number of trading companies of all sizes was estimated at about 6,000. Six companies are especially prominent in the handling of raw cotton.

An unusual characteristic of the trading company system is that there are almost no exclusive dealerships, except for heavy equipment and bulk materials. Generally, all the major trading companies represent all the leading manufacturers; this is particularly true of textile products. The more aggressive manufacturers deal with any trading company that is interested in their products, a situation leading to intense competition in both domestic and foreign markets. In the cotton textile industry, where the brand names of the large companies are important, it is not unusual for these companies to give most of their business in a particular product to one trading firm and to divide the remainder of their business among other firms in order to keep trade channels open. By this means, in the foreign trade field, such manufacturers hope to benefit from selling through the particular trading company that has the most effective selling organization in each potentially important market.

A number of changes now occurring in the distribution system within Japan may affect the present position of trading companies. For example if, as seems likely in the future, greater emphasis is placed by manufacturers on their sales promotion of brand-name merchandise, it is possible that a system of exclusive distributorships will develop in an effort to establish and maintain brand-name images. Moreover, the movement toward direct selling in the home market may also call forth a movement on the part of trading companies toward closer alliance with companies in the retailing field.

Although there is no clear way of determining whether the trading company system plays any important part in interfiber competition, there is every reason to believe that it will continue to be an important force in Japanese economic life for the foreseeable future.

## **Raw Materials**

In the complex cotton textile industry of Japan, it is difficult to single out any fact as the most important in the field of interfiber competition. With respect to cotton-rayon competition, however, it is apparent that the relative prices of these two fibers have an important bearing upon their use by spinners.

### **Raw Cotton**

For a number of years, Japan has been the world's largest import market for raw cotton, averaging annually about 3.0 million bales. Since 1952, the United States has supplied on an average of about 40 percent of this total, Mexico has been second largest supplier, and Pakistan usually third, although twice during this period Brazil took third place. Cotton purchases have sometimes been directed to



specific sources by the government, but since April 1, 1961, cotton has moved into Japan virtually free of government control. Since that time, price in relation to quality undoubtedly has been the governing influence in the choice of growths by Japanese cotton buyers.

Table 3.—RAW COTTON: Imports of Japan, average 1934-38, 1947-64

Year beginning Aug. 1	Total	From United States	From second supplier		U.S. as percent of total
			Quantity	Country	
Average	1,000 bales <sup>1</sup>	1,000 bales <sup>1</sup>	1,000 bales <sup>1</sup>		Percent
1934-38----	3, 396	<sup>2</sup> 1, 312	1, 423	India-----	38. 6
Annual:					
1947-----	663	440	141	----do-----	66. 4
1948-----	922	772	60	----do-----	83. 7
1949-----	957	821	56	----do-----	85. 8
1950-----	1, 952	992	380	Pakistan-----	50. 8
1951-----	1, 641	1, 064	233	----do-----	64. 8
1952-----	2, 055	625	503	Mexico-----	30. 4
1953-----	2, 431	942	476	----do-----	38. 7
1954-----	2, 037	753	489	----do-----	37. 0
1955-----	2, 376	768	499	----do-----	32. 3
1956-----	2, 929	1, 425	616	----do-----	48. 7
1957-----	2, 394	1, 050	582	----do-----	43. 9
1958-----	2, 525	646	695	----do-----	25. 6
1959-----	3, 276	1, 608	659	----do-----	49. 1
1960-----	3, 535	1, 881	786	----do-----	53. 2
1961-----	2, 843	1, 103	814	----do-----	38. 8
1962-----	3, 070	889	775	----do-----	29. 0
1963-----	3, 167	1, 163	732	----do-----	36. 7
1964-----	3, 416	1, 028	900	----do-----	30. 1
1965 <sup>3</sup> -----	584	143	142	----do-----	24. 5

<sup>1</sup> 1934-45, bales of 478 pounds; 1946 to date, bales of 480 pounds.

<sup>2</sup> U.S. was second supplier in these years.

<sup>3</sup> August-October only.

Japanese spinners are able to utilize cottons from any source, and they do not depend heavily, as do spinners in many other countries, on a single source just because it offers a large quantity of cotton which is uniform in grade or staple. Over the years, especially in the pre-World-War-II period when India<sup>11</sup> was often Japan's primary source for cotton, Japanese spinners learned to mix the shorter Indian and Chinese cottons with higher grade and longer staple cotton from other sources and to achieve yarn of quality comparable to that produced in other countries only with cotton of higher grades and longer staples. The practice of blending cottons from many sources continues. In fact, the utilization of a considerable proportion of lower priced cotton by means of blending forms one basis for the relatively low priced cotton products of Japan. Of the cotton purchased by Japan from the United States, well over half is less than 1 inch in staple length, 25 percent or more is

<sup>11</sup> A large part of the cotton exporting area of prewar India is now in the country of Pakistan.

1 to 1½ inches long, and less than 5 percent in staple lengths 1½ inches and over. This staple length distribution is in sharp contrast to that of Western European countries, which as a whole, generally obtain 70 percent or more of the cotton purchased from the United States in the 1 to 1½ inches group, and only 20 percent or less in shorter staple.

Not only do Japanese spinners have the ability to blend various growths and qualities of cotton so as to obtain a higher quality product than other manufacturers using comparable raw materials, but it has long been their practice to take every possible advantage of variations in the general price level and in quality differentials. In addition, Japanese buyers have developed a number of techniques for cutting freight costs. About one-third of the shipments of U.S. cotton to Japan move through west coast ports from which there is about a 1-cent-per-pound difference in shipping costs compared to gulf coast ports. Moreover, most of Japan's supplies of Mexican cotton now move from Mexican ports, since freight and other charges are thereby lowered. It is also believed that average freight costs from all sources are low because much cotton is moved on Japanese ships or other flag ships with advantageous freight arrangements.

There have been a number of arrangements whereby cotton has been available from the United States on the basis of U.S. Government programs. Japan has taken part in such programs. Annually for more than a decade, the Export-Import Bank, a U.S. Government agency, has made credit available for the purchase of raw cotton in the United States. As a general rule, the annual loans amount to \$60 million, but for the crop year 1964-65, \$75 million was provided. These loans generally finance about 40 percent of Japan's total purchases of cotton from the United States. Under present practice, the funds are disbursed by U.S. commercial banks with or without the Export-Import Bank's guarantee. Allocations under the credit are made to the Japanese spinners through the 12 major foreign exchange banks under the guidance of the Ministry of International Trade and Industry. The interest rates on these annual loans are negotiated between the Export-Import Bank and the Bank of Tokyo. It has ranged from 2¾ to 4¼ percent, depending largely upon the prime rate in the United States, and has made possible considerably lower interest credit to mills than regular commercial credits in Japan.

Considering the high rate of dependency on outside operating capital, availability of advantageous interest rates is of considerable importance to spinners. While the justification for Export-Import Bank loans has shifted from dollar shortage to relatively low-interest credit, these loans are still an important factor in purchase of U.S. cotton.

Pursuant to various provisions of Public Law 480, the U.S. Government has made certain arrangements with the Japanese Government since the mid-1950's, that may have influenced acquisition of cotton by the Japanese cotton textile industry. Title I of Public Law 480

provides for the sale of certain agricultural commodities, including cotton, for local currencies, after the satisfying of "usual marketing" provisions. "Triangular deals", whereby Japan processed cotton into yarn or piece goods for delivery to countries designated as recipients of U.S. assistance, have also been undertaken under Title I. Under Title III of this law, goods for the U.S. strategic stockpile have been bartered in return for cotton. About 30 percent of U.S. cotton exports to Japan in the crop years 1955-56 and 1956-57 were covered by Public Law 480 programs. From that period until crop year 1963-64, only about 10 percent or less of Japan's cotton imports were covered by such programs, which from about 1960 to the end of the crop year 1963-64 were limited to "triangular" arrangements. There have been no such programs in the 1964-65 period.

Beginning in 1963, the Japanese Government also permitted importers to participate directly in the arrangement for 1-year credit purchases from the U.S. Commodity Credit Corporation, which in effect provides financing at moderate interest rates for the purchase of U.S. cotton. The amounts involved were \$33 million and \$35 million for the 1963 and 1964 crop years, respectively.

## For Manmades

Japan's manmade fiber industry requires large quantities of woodpulp and various chemicals. The major chemicals used for cellulosic fiber production are caustic soda, carbon disulfide, sulphuric acid and, in the case of acetate types, acetic acid. Noncellulosic fibers are manufactured from a variety of chemicals produced from coal, coke, water, petroleum products, and limestone. Much of the basic raw materials from which the necessary chemicals are produced are imported, but, in at least some cases, the chemicals for fiber production are a byproduct of the production process for other chemical products necessary to the economy of Japan.

Woodpulp is the major cost component for cellulosic fibers. In the past few years, total requirements for woodpulp for the manufacture of cellulosic fibers have increased to over 650,000 tons annually. Before "liberalization" of imports in April 1962, between 70 and 80 percent of the total requirements of the industry came from local supplies. Since liberalization, however, imports have provided a larger share. This has been a function, largely, of increased total demand rather than decreased domestic supply. It is believed that rayon producers have guaranteed purchase of domestically produced pulp, despite the fact that, on the average, imported rayon grade pulp is lower in cost and higher in quality. The lower average cost of all woodpulp used by the industry may have been at least a part of the reason for the lower rayon prices that followed liberalization.

Late in 1959, a pulpmill was opened in Alaska—a joint U.S.-



Table 4.—RAYON PULP: Imports, production, and supply in Japan, 1955-64

Year	Imports	Production	Supply <sup>1</sup>	Imports as percent of supply
	1,000 s.t.	1,000 s.t.	1,000 s.t.	Percent
1955-----	75	306	381	19. 7
1956-----	127	409	536	23. 7
1957-----	130	447	577	22. 5
1958-----	51	327	378	13. 5
1959-----	87	395	482	18. 0
1960-----	149	417	566	26. 3
1961-----	176	442	618	28. 5
1962-----	181	416	597	30. 3
1963-----	209	455	664	31. 5
1964-----	218	443	661	33. 0

<sup>1</sup> Beginning stocks are excluded since data are not available.

Source: *Statistical Yearbook of Japan*, 1961 and 1964, and official records.

Japanese venture—rayon pulp from which began to account for an increasing percentage of Japanese total supply when the mill's output became available. Japanese cotton spinning companies and rayon producing companies are reported to own a substantial interest.

Increases in woodpulp supplies in Japan were followed by a 25-percent price reduction at the end of 1962, although woodpulp prices outside Japan declined relatively little. This price adjustment brought prices in Japan to about 7.4 cents per pound, compared with the higher-than-world levels of over 10 cents per pound that prevailed from about 1954 to the end of 1961. While the price of rayon staple reflects many factors in addition to rayon pulp costs, any substantial change in a basic cost component, if sustained, is almost certain to be reflected in the long-run price levels of rayon with implications for cotton.

As indicated, various chemicals, particularly from petroleum and coal, form the basis of the noncellulosic fibers. Without access to the costing data of a fiber producing firm, it is impossible to determine the relative costs of the various raw materials from which these fibers are made. However, manufacturers expect to be able to cut raw material costs of some of the more important noncellulosic fibers, and considerable attention is being directed to this end. According to one of the developers of vinylon, a polyvinyl chloride fiber developed in Japan, from 60 to 70 percent of cost of production of vinylon is raw material cost. The Japanese Association for Research on Vinylon, sponsored by 60 or 70 private companies, has been established to research various aspects of vinylon development, including alternative sources for raw materials that might reduce costs of the basic raw materials. Presumably, this is the only nationally sponsored research on manmades.

Active and serious research is being conducted in this area by the companies manufacturing other types of noncellulosic fibers, particularly to find cheaper sources for the necessary chemicals. For example, petrochemicals are being successfully used instead of higher cost cal-

cium carbide as a source material for vinylon raw materials. Similar price reductions for a number of chemical raw materials used in the production of nylon, polyester, and acrylic fibers are being pursued. The lowest priced raw material sources for polypropylene are also being sought, since Japanese manmade fiber producers consider this newest noncellulosic fiber to have great potential importance. These raw materials are products of the chemical and petrochemical industries; however, the largest manmade fiber producer in Japan is reported to have entered into the production of some of these chemicals. Although prices of manmade fibers are not closely tied to production costs, such costs tend to set a limit on sustainable competitive price cuts.

The push behind the great effort to reduce raw material costs for noncellulosic fibers may lie in the probability that Japan's production costs for some types of noncellulosic fibers are above the costs of other major producing countries. This seems quite likely for polyester and acrylic fibers, but not for nylon fibers, if quoted prices are taken as an indication of cost levels. In the event production cost for polyester and acrylic fibers could be reduced, these fibers would be better able to compete with cotton on a price basis, even though their prices would be likely to remain above those of cotton. Moreover, the price reductions that might follow would put Japanese fiber and textile products in a more competitive position in world markets.

Lowest unit costs are obtained when plants are operating at generally full capacity. The advantage, to manmade fiber producers, of full production is apparent; the sharpest price competition can be economically sustained in such periods. Nevertheless, there has been surplus production capacity in the cellulosic section for the last several years. The Japanese solution to this overcapacity has been to "seal off" equipment excess to the expected market demand and thus the remaining equipment has been operated at higher capacity levels than would otherwise have been possible. The rapid expansion of noncellulosic production capacity in recent years has exceeded the current sales of certain noncellulosic fibers. Such a situation could lead to severe pressures on Japanese producers which would, in turn, result in lower prices, unrelated to the push for lower production costs.

## Market Competition

In a broad sense, competition occurs across the full range of textile fibers and of other products traditionally used for textile end uses. In addition, interfiber competition generally occurs throughout the various levels of manufacturing and distribution. In most countries there are many markets in which competition occurs: those created by the manufacturer who makes the choice of fibers to spin; those created by the independent weavers who make a choice of yarns to

weave; and those created by the converters who advance the finishing of loom-state fabrics. Markets are also created by industrial users, exporters, domestic wholesalers, cutters-up, and others, including, of course, the retail buyer. And in each, choices have been narrowed by decisions made at previous levels. As a practical matter, however, in Japan, the degree of this competition is somewhat lessened by the operation of the system under which trading companies and wholesalers retain title to goods advancing through the processing steps and channels of distribution. Competition between companies handling textile goods is also strong, since slow-moving goods are pushed at very competitive prices because they are owned and must be turned over.

Price is, of course, one important factor in the competitive relationship between textile fibers and other products in traditional textile end uses. The price relationship between textile fibers must be considered, however, along with waste factors involved in spinning various fibers, as well as utility and other characteristics, including the selling price of the finished product. The price relationship is evaluated by spinners in the light of the relative cost of raw materials and the relative value of products manufactured therefrom. The relationship between production and inventory levels of textile end products is, of course, also an important factor in determining price of textile end products. The interplay of these economic forces is never ceasing—raw material prices bear upon prices of the finished goods and prices of the finished goods bear upon raw material prices. Ultimately, both are affected by the supply of the full range of textile products and the demand for them, in both domestic and export markets of Japan.

## Prices of Fibers

At the raw material stage, cotton is the least expensive apparel textile fiber other than viscose rayon staple. In early 1965, major textile fibers in Japan were priced as follows:

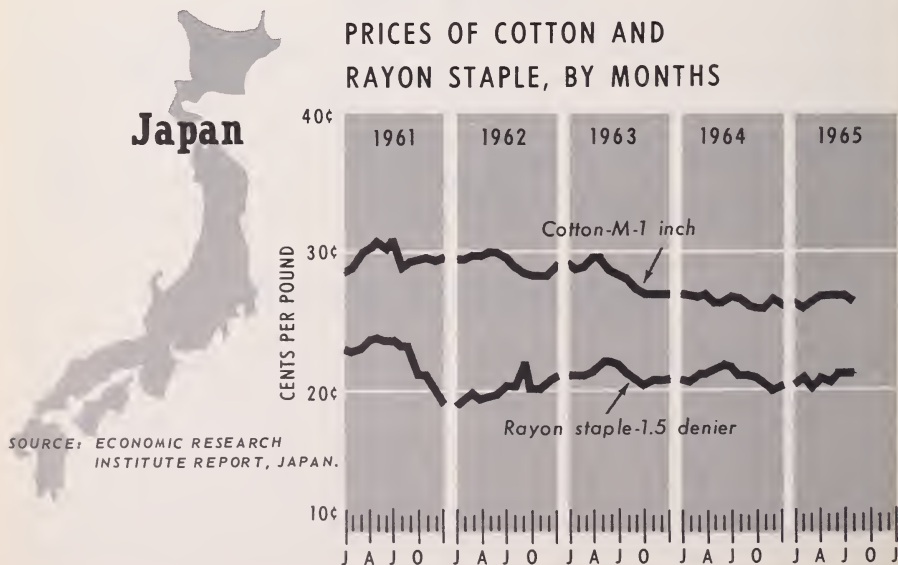
<i>Type of fiber</i>	<i>US\$ equiv. per pound</i>
U.S. cotton (Orleans-Texas M 1'') .....	\$0. 26
Manmades:	
Viscose rayon staple.....	. 21
Polynosic rayon staple.....	. 32
Acetate rayon staple.....	. 50
Vinyon staple.....	. 66
Polypropylene staple.....	. 76
Nylon staple.....	1. 03
Polyester staple:	
Cotton type.....	1. 42
Wool type.....	1. 39
Acrylic staple.....	1. 13
Wool, worsted type.....	1. 16
Silk.....	6. 48



The broad generalization is often made that cotton and cellulosic manmade fibers, particularly rayon staple, compete with each other on the basis of price and that cotton and noncellulosics compete on the basis of end-use characteristics. It should be remembered, however, that many of the end-use characteristics for noncellulosics are considered in relation to price, as are, of course, the characteristics of rayon, paper, or any other commodity. Moreover, for any given end-use the choice of fibers may be relatively limited, and the relationship of price to quality must be measured against the end use involved.

There are, of course, a great many standard textile yarns and fabrics that are suitable for a large range of products, and for these it would appear fruitful to examine price competition as such between the fibers.

Rayon staple prices in Japan are generally below prices in other countries and below those of all other fibers in Japan. Despite the low level of quoted prices, it is likely that in Japan, as elsewhere, published prices do not reflect the true cost of rayon staple to the buyer. For example, there are generally substantial discounts between buyers and sellers so that the user obtains the rayon staple at prices below the quoted levels. Moreover, in a large integrated company that both makes the fiber and spins it, cost allocations between the two operations of the firm are not made public, but again it is probable that the true cost to the spinning department is less than the market price for the fiber. It does appear, however, that there is a large sales market for rayon staple in Japan. In general, prices of all textile fibers tend to move somewhat in concert, but more particularly, cotton and rayon staple prices show a strong tendency to move together. Under "normal" market conditions, rayon staple prices are 70 to 80 percent of the price of raw cotton.



While in most other countries published rayon staple prices are more stable than cotton prices, in Japan they seem to reflect more responsiveness to market conditions. Informed circles in Japan indicate strongly that the cotton-rayon staple price relationship is more important than actual cotton price level (or any factor other than demand), in spinners' decisions to use cotton or rayon staple in manufacturing for Japan's domestic market. To date, there has been relatively little blending of rayon staple with cotton in Japan; in contrast to the European situation, it may be presumed the price relationship between cotton and rayon staple has little effect on decisions on blending.

With a lower per pound cost and a lower waste factor in the manufacturing process, rayon staple has been a tempting substitute for manufacturers, especially when mills had difficulty obtaining as much cotton as they could use, and when the price spread between cotton and rayon staple widened. Between less processed goods and more highly processed goods, there is a considerable range in the relative share of raw cotton costs to total costs. In coarse grey goods, raw cotton costs may run as high as 70 percent of the total and consequently have a substantial bearing on the level below which prices cannot be cut. On the other hand, raw cotton costs have less bearing on the pricing of more highly manufactured items; therefore, the spread between cotton and rayon staple prices would be more important in manufacturing less-processed goods than highly processed merchandise in making a decision regarding the use of alternate fibers. In view of the possibility of lower selling prices, manufacturers may find rayon staple products and products of rayon staple mixtures unattractive as substitutes for all cotton products, despite the lower raw material costs. Then, too, if necessary, it is possible to reduce raw material costs with the use of lower grade cotton as an alternative to moving into substitute materials. Japanese consumers have great reservations about rayon staple products, and will undoubtedly continue to have them for some years, largely as a result of wartime experience.

A new dimension has been added to cotton-rayon competition by the availability of polynosic rayon, a relatively new type of rayon, which some makers in Japan call "artificial cotton". Manufacturers claim its characteristics are superior to those of regular rayon and that this fiber is suitable for fine yarn fabrics and also for blends with both natural and other manmade fibers. Polynosic rayon has wide application in fabrics for apparel, industrial, and household uses. Depending on cost relationships, it may in the future prove to be one of cotton's most important competitors.

Next to rayon staple, acetate staple is the cheapest manmade staple. It is used, however, mainly for specialized lightweight fabrics, consequently, it is not thought of as a competitor of cotton in the full range of fabrics.

Price of noncellulosic fibers—such as vinylon, polyester, acrylic and

others—are generally several times that of cotton, but the fact remains that these fibers compete with cotton in many end uses. One pound of noncellulosic fiber frequently goes further than 1 pound of cotton, so that competition is keener than a simple comparison of unit prices would suggest. Moreover, the competition between cotton and non-cellulosic fibers in apparel and other end-uses is to a considerable extent based on end-use characteristics. Some of these fibers are used largely to produce wool-like items, and prices apparently follow wool prices.

Producers of manmade fibers in Japan have been able to lower costs as they achieved increased production volume and improved manufacturing efficiency. As a result of these and other savings including lower raw material costs, manufacturers have reduced their prices of nylon, polyester, and acrylic fibers. At this writing, prices for polyester and acrylic fibers in Japan remain above those in the United States, in the United Kingdom, and in West Germany. If prices for noncellulosic fibers can be further reduced, price competition with cotton and rayon, especially polynosic rayon, may intensify.

## Blends

Textile products of blended yarns have been available for a long time in Japan; in fact, during the period before World War II, it was compulsory for textile manufacturers to produce certain goods of blended, rather than 100 percent cotton yarns, in order to reduce domestic consumption of cotton and to encourage the development of Japan's relatively new manmade fiber industry. Perhaps as a result of their wartime experience, Japanese consumers have been inclined to prefer 100 percent cotton goods to blends either of cotton and manmade fiber or of two or more manmade fibers.

As indicated elsewhere, blends are not pushed as a price-cutting device, but are advertised on the basis of end-use qualities. In Japanese retail outlets, there are numerous standard textile items made of blended yarns—sheets, shirts, children's clothing, and the like. The most popular blend has been 35 percent cotton-65 percent polyester, although blends of rayon staple-polyester, polyester-linen, cotton-vinylon, and wool-nylon are also fairly common. A previous effort to expand the use of cotton-rayon blends was not successful, but the use of polynosic rayon with cotton may overcome consumer resistance to cotton-rayon blends. In 1965, a new cooperative program was launched between manmade fiber producers and spinners to standardize a blend of 30 percent polyester-70 percent "other fiber" for the production of five textile items: knitted underwear, handkerchiefs, sheets, pillowcases, and bedspreads. Manmade fiber producers hope that the lower cost of this blend ratio will expand the market for blends, a result which can only cut further into cotton's end-use markets. It can be presumed that the Japan Chemical Fibers Association will promote this new blend, as a part of its promotion campaign for all manmade fibers.



## Prices of Textile Products

While the price relationship between textile fibers has special significance in the choice between fibers by spinners, the actual price level has a bearing on the amount of various products consumed in domestic and export markets. The relative volume of sales of textiles in the domestic market compared to other consumer goods will depend to some extent upon the relative prices of textile products to the price of other consumer goods. By the end of 1964, the Tokyo Consumer Retail Price Index for all consumer items reflected about a 28-percent increase over 1960 price levels. The index for food rose more than 30 percent, that for clothing only 22 percent. The price index of textile products is also lower than the index for miscellaneous commodities, and therefore, compared to 1960, clothing represents a relatively attractive buy for consumers.

Good quality cotton products are generally priced lower than those made of blended yarns or of 100 percent manmade fibers. From a consumer's point of view, however, the increased utility of manmade fiber products, and their other special attributes, may overcome some of the disadvantages of the higher initial costs.

Actually, there is thought to be little price elasticity in the domestic market for cotton products. It is reasonable to assume that the availability of highly advertised manmade fiber products of all kinds has stimulated demand for them, and resulted in high demand elasticity on both price and income bases, with resultant lessened demand for products of cotton and other fibers. Producers of cellulosic manmade fiber products are continuing attempts to reduce prices on their products on the theory that increased demand will result and will offer greater domestic competition to cotton.

Surveys of consumer expenditures have been made by the Japan Cotton Promotion Institute to determine the relative position of textile fibers in various apparel and household end uses. Inquiries were conducted on the basis of specific items (although no common denominator exists that permits complete comparison of textile fiber uses for apparel and household goods in the survey years). The survey shows, however, that in a number of important end uses where fiber consumption is substantial, cotton's position has deteriorated relative to manmade fibers, particularly noncellulosics. In terms of end uses, except for bedsheets, cotton has experienced severe losses on a relative basis. It is of great importance to cotton interests that this trend be arrested and if possible reversed.

There has also been a shift in the relative volume of various fibers consumed in the industrial sector of the domestic market. Whereas the total quantity of cotton has remained stable, and therefore a smaller percentage of the rising total, there have been tremendous increases in use of manmade fibers, both cellulosic and noncellulosic. In 1952, over 80 percent of fibers used for industrial purposes was cotton; by 1959,

TABLE 5.—RELATIVE POSITION OF FIBERS IN SPECIFIED END-USES IN JAPAN, 1957 AND 1964

Item	Cotton		Cellulosic		Noncellulosic		Other	
	1957	1964	1957	1964	1957	1964	1957	1964
	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Men's wear:								
Knitted underwear	95.7	72.3	0	3.8	2.3	18.6	2.0	5.3
Shirts and material for shirts	81.7	24.0	1.3	11.5	14.9	59.6	2.1	4.9
Work trousers	93.1	79.1	.9	2.8	4.0	15.7	2.0	2.4
Women's clothing:								
Knitted underwear	93.5	46.4	1.4	15.2	3.8	36.8	1.3	1.6
Kimono material	55.4	29.7	4.9	3.3	4.1	10.9	1 35.6	2 56.1
Children's clothing:								
Knitted underwear	96.9	71.4	.3	6.0	1.8	20.6	1.0	2.0
Girls' uniforms and material	50.3	3 9.3	3.1	12.4	25.8	39.5	4 20.8	5 38.8
Boys' uniforms and material	67.2	3 15.6	1.0	14.9	25.6	60.3	6.2	9.2
Household uses:								
Bedsheets	97.5	94.0	.8	.9	.8	4.8	.9	.3
Comforts, quilts and material	92.7	54.3	2.5	9.1	1.6	25.6	3.2	11.0

<sup>1</sup> Includes wool 11.9 percent and silk 23.4 percent.<sup>2</sup> Includes wool 28.6 percent and silk 24.6 percent.<sup>3</sup> Uniforms only.<sup>4</sup> Wool.<sup>5</sup> Includes wool, 38.0 percent.

Source: Monthly reports of the Japan Cotton Spinning Industry, 1957 from No. 138, June 1958; 1964 from No. 221, May 1965.

less than 50 percent. The most important industrial use for cotton has been for tires and fish nets and tackle; cotton is also used in lesser quantities for thread and electric wire insulation. In both of the major end uses, particularly fish nets and tackle, cotton has lost relative to total fiber used, while manmade fibers have taken over a substantial portion of the market. Since competition from manmade fibers in most industrial uses is based largely on durability or other qualities in relation to price, it is likely that cotton will continue to be the target of severe competition in industrial end uses.

In the export market, it appears that price reductions in cotton goods could be expected to increase consumption. A few years ago, it was estimated that about 50 percent of Japan's markets for cotton goods were in countries where the annual per capita income averaged \$80 or less; another 15 percent, in countries with average per capita incomes ranging from \$81 to \$300 annually, and 35 percent in countries with incomes in excess of \$300 annually. The Japanese goods that are sold into low income markets are mainly coarse grey goods and low-quality print cloth, types for which the value of the raw cotton in relation to total cost is roughly 70 percent. By comparison, where the average income is above \$300, the value of raw cotton is estimated to be about 40 percent of the total value of goods sold.

It is recognized that reductions in the world prices of raw cotton would generally benefit Japan's competitors as well as Japan in the international cotton textile market. It appears, however, that cotton textile price reductions probably would lead to increased total consumption and consequently a larger market for all cotton textiles.

Moreover, with lower cotton prices, Japanese spinners believe that they would be better able to meet price competition of their competitors in international markets. Since about 40 percent of Japan's total market for cotton textiles is in foreign countries, especially in low income areas of the world, price reductions for exported cotton goods are considered an important goal of manufacturers.

## Prospective Developments

Trends in fiber consumption in the immediate past and the Japanese Government's plans of economic expansion give some clues to the direction that fiber consumption patterns may take. Although of reduced importance, government influences will undoubtedly continue to the benefit of the manmade fiber industry; the New Textile Industry Equipment Law is a case in point. The government's economic plans indicate sharp increases in manmade fiber production, and it is possible that the government will lend encouragement to achievement of these goals. However, there are many other factors at work.

Textile producers are taking a number of measures that may signi-



ificantly influence competition among fibers and between textiles and other consumer goods. Producers are attempting to offset higher costs for labor and other components by modernization, including simplified manufacturing processes, use of larger packages and higher speed machinery, and increased mechanization. There is also an increased tempo to the trend to vertical integration, both forward and backward from the spinning operation, especially in large companies. If successful, these measures can in time lead to reduced production costs for cotton and manmade fiber textile products.

On the other hand, manmade fiber producers continue intensive research for lower priced raw materials and other economies that would permit price reductions for manmade fibers if competitive forces were strong enough to force the passing-on of these benefits to their customers. The possibility of technical improvements in raw material sources, particularly the domestic petrochemical industry, for certain of the noncellulosics, offers some real opportunities for producers of such fibers to achieve this goal. In addition, much research is conducted on the development of new fibers and for modifications in fiber characteristics in present fibers that would broaden their use; thus, manmade fiber manufacturers are searching for commercially feasible products with distinctive characteristics at relatively cheap costs. Experiments with blended yarns for woven and knitted fabrics may also widen markets for manmade fibers, as they are combined with cotton or with each other to overcome some of their intrinsic disadvantages. The move of Japan toward an "open economy" resulted in increased imports of textile products of all kinds, from yarn through finished products, both of cotton and manmade fibers. Some of these imports are cotton grey goods, imported from lower cost sources, that are finished and reexported. An era of intense competition seems to be evolving.

The evaluation of interfiber competition in any market is usually complicated, but in Japan the importance of the export market to the textile industry presents an added problem. Therefore, in order to understand the situation more fully, it is helpful to evaluate competitive factors in two separate areas, domestic and export.

## Consumer Spending

The domestic market of Japan will undoubtedly assume an increasing proportion of the total market of the Japanese textile industry in the years ahead. This trend is already evident, since the domestic share of the total market for all types of textile products has already increased; and in view of the forces at work in both the Japanese domestic and export markets for textiles, this trend can be expected to continue. The population of Japan is projected from its present 97 million to 102 million in 1970, and thus will provide a larger base for home

consumption than ever before. Projections of per capita income changes in the "New Long-Range Economic Plan of Japan (1961-1970)", also called "Doubling National Income Plan", indicate estimated per capita income of \$580 by 1970, 238 percent above the average of the base, fiscal years 1956 through 1958.<sup>12</sup> For per capita consumption of textiles for clothing (not including household or industrial uses), official projections in the current plan show 23.9 pounds per capita by 1970, compared with 13.8 pounds for 1959. It can, therefore, be presumed that a portion of the additional consumers' income will go to the purchase of clothing and other textile products, but how these expenditures will be allocated among various textile fibers remains to be determined. Although clothing consumption has been projected to increase by 1970, apparently Japanese Government planners do not expect it to increase commensurately with the growth in consumption of other types of consumer goods.

A greater shift by purchasers to style considerations may benefit cotton somewhat. The rationalization for buying higher priced manmade fiber products, based on longer utility life, is not valid when changing fashions, not wear, limit the useful life of a product.

Even among the more conservative generations in the cities and on the farms, there is some expectation that clothing consumption will be expanded. For example, many farm people do not understand the value and use of underwear and, in fact, have very little underclothing; a campaign to educate farm families to the use of underwear is expected to increase its use by that segment of the population. Cotton has maintained a clear advantage in this type of clothing, although fiber trends in the United States indicate the possibility of a challenge to cottons in this field by polynosic rayon, claimed to have many of cotton's advantages.

The use of textile fibers for industrial purposes can be expected to continue to expand in a degree roughly proportionate to the growth in industrial activity in Japan, which is expected to continue. All factors considered, the expansion of manmade fiber consumption seems likely to persist, but at a lower rate than in the past.

## Market Development

Cotton textile manufacturers have taken a number of steps to expand the consumer appeal of cotton textile products; in order to hold and improve the place of cotton products in the consumer goods market, it is expected that these efforts will be intensified. Special finishes to impart wrinkle resistance, wash-and-wear characteristics, and other end-use qualities have been used on a large scale and promoted in recent years. Fabrics so treated are gaining widespread popularity. In

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<sup>12</sup> 1962 *Japan Statistical Yearbook*.



**Miss Cotton Competition, Japanese cotton week.**

some quarters, increased effort is being made to put cotton into high-fashion items; for example, cotton fabrics are being printed with relatively expensive designs—particularly screen prints—such as those formerly associated only with silk fabrics.

Since January 1956, extensive market development has been undertaken by the Japan Cotton Promotion Institute in cooperation with the Cotton Council International and U.S. Department of Agriculture. Under this program, six member organizations<sup>13</sup> cooperate to further sales of cotton and cotton products in Japan. Annual expenditure for this program has been about \$350,000, one-half provided by the Japanese Institute and one-half by the U.S. Department of Agriculture. In view of the intense competition with which it was confronted and the success of this cooperative promotion effort, the Japanese cotton industry organized the Japan Cotton Center in 1962, financed without outside assistance. In 1963, the Japanese industry increased its market development budget to bring annual expenditures to over \$1 million. By comparison, however, it is estimated that Japanese manmade fiber producers are spending about \$20 million annually for market development and promotion. Market development and promotion will continue to be important aspects of interfiber competition.

Under the cotton programs, market research is undertaken, publications are provided for promotion at all levels, and publicity campaigns

<sup>13</sup> Japan Spinners' Association, Japan Cotton Traders' Association, Japan Cotton Weavers' Association, Japan Textile Dyers' Association, Federation of Japan Cotton Yarn Merchants' Association and Federation of Japan Cotton Fabric Wholesalers Association. Other groups with special interests, such as towel, lace, and kasuri cloth associations also work with this group to further their objectives.





Japan Cotton Center promotion.

are conducted, including Cotton Week, the tour of the U.S. Maid of Cotton, and selection of a Japanese "Miss Cotton". In addition, specific campaigns have been conducted for: *kasuri* cloth—a Japanese traditional kimono cloth made of splashed patterns; *yukata* cloth—a casual kimono cloth for summer wear; and other goods of particular appeal. The market development program is recognized as having played an important role in the increased use of cotton; without it, inroads made by manmade fibers in the domestic market would have undoubtedly been greater. It is felt by the Japan Cotton Promotion Institute that the promotion program must continue, if cotton is to maintain and expand its place in the market; this is the ultimate goal.

## Other Factors

There are also other forces at work that may modify somewhat the traditional patterns of retail trade in Japan, although these would not necessarily change the relationship between cotton products and other types of textile products. Japan has been—and still is—a nation of small shopkeepers. There are about 1.6 million retail establishments<sup>14</sup>—1 for every 53 people. About 90 percent of these employ mainly family members and, together, handle less than 50 percent of the nation's retail business. If the present retail sales system were streamlined, some overhead costs of distributing textile products would be reduced. Efforts in this direction have already begun which, if successful, could eventually lead to reduced prices at the retail level.

<sup>14</sup> *Japan Statistical Yearbook*, 1964.

In addition, some manufacturers have begun to bypass trading firms by selling directly through retailers instead of wholly through trading firms, as traditionally. This trend has gained impetus in recent years through the development of chains of supermarkets and discount stores, known in Japan as SSDDS (self-service discount department stores). The mass purchasing power of these organizations helps to put goods on the retail shelves at lower prices, especially when such chain stores are combined with self-service features. It is reported that the major trading companies are keeping close watch of these developments and that, in order to counteract adverse effects on their own business, they may themselves enter retail and manufacturing fields; assuming, of course, that the present movement is successful.

In the domestic market it appears, therefore, that cotton will be confronted by the intensified competition from manmade fibers. It is likely that cotton consumption will increase in view of the many factors: increased size of the market, larger incomes of consumers, improved distribution system, enhancement of cotton's intrinsic qualities by new processes, and expansion of market promotion.

## Export Markets

Japan's prospects for maintaining and expanding its export markets are difficult to evaluate, since its exports of textiles are subject to many complex influences. Japan's markets for textiles are world wide and the country exports a tremendously wide range of textile products; practically any problem relating to textiles in any importing market will affect some of the textile commodities exported from Japan.

Recently, the international market for cotton textiles has been in a dynamic state, characterized by the rise of many new sources, particularly on the African and Asian continents. In years past, these new producers have been important export markets for Japan. A number of these nations' manufacturers will continue to provide Japan with severe competition in their own countries and in third-country markets.

Unlike Japan, some of the newer suppliers of cotton textiles are themselves producers of raw cotton. However, the availability of locally produced cotton may or may not prove to be advantageous, depending upon a country's efficiency as a cotton producer and the price at which its cotton textile producers may obtain their raw material. New producers of cotton textiles generally manufacture basic coarse goods and simple garments. In the export market, price is the determining factor for such goods. In some countries, the level of efficiency in the textile industry is such that their products can compete in the export market only with subsidies and other devices that bring down their prices to world market levels.

The nature of controls over, and the level of tariffs borne by, textile

products will also heavily influence Japan's future trade in textiles. The Long-Term Cotton Textile Arrangement will probably continue to bring some order into the chaotic conditions that probably would otherwise result in world cotton textile markets from the entry of many new suppliers and consequent distortion of world trade patterns. Many markets, particularly in Europe, had, by various means, been virtually closed to Japanese goods. The LTA provided the climate for enlarging quotas in such countries and engendered a commitment by the signatories to institute no new trade restrictions and to relax existing ones.

Although the arrangement provides a device by which some of Japan's important markets, including the United States, may limit Japan's exports in case of market disruption, nevertheless, on balance, the LTA may be advantageous to Japan. Under the LTA, exports from the developing countries are more likely to expand in an orderly manner and thus minimize market disruption. Therefore, it can be expected that, so long as it exists, the LTA will provide a measure of stability to the international market. However, it is not now possible to foresee whether the LTA, in its present form, or some similar instrument will be in effect beyond the expiration date of September 30, 1967.

## **In Less-Developed Countries**

It is apparent that, in the future, the character of Japan's export market will be somewhat changed. Many of the less developed countries that in past have been among Japan's major markets are now increasing local production of cotton textiles in their moves toward industrial and economic development. Eventually, there should be an expanded total world market resulting from the development in these low income countries, since increased per capita incomes should result in increased consumer expenditures on all goods, including textiles. Such development may, in the long run, work to the advantage of foreign sources, including Japan, but the share that Japan will gain in any expanding import market in such countries remains open to question. In the short run, local production of cotton goods has often called forth protective measures against importation of competing textile goods. Countries with new textile industries generally produce standard fabrics—such as coarse sheeting and low-quality print cloths—although they may continue to import limited quantities of finer, higher quality goods.

Another factor that may influence the composition of Japan's textile exports into some markets is the trade balance between Japan and the prospective textile-buying country. The foreign exchange position of these countries may require stern measures for some time to come. In some markets, it will be necessary for Japan to continue to buy raw cotton or other products in order to sell Japanese textiles. In others, it will be impossible for Japan to continue to sell in volume unless, among other things, trade imbalances can be corrected.



It is believed that there is a substantial price elasticity of demand in many of Japan's important export markets for cotton textiles where incomes have been extremely low. If Japan is to maintain sizable markets in these less developed countries, competitive cotton textile prices will be of prime importance; this will become increasingly difficult in the face of rising costs in Japan that in the immediate future will probably outstrip rises in costs elsewhere.

There is, of course, a far greater development of cotton textile industries than of manmade fiber producing industries in many of Japan's markets in Africa and Asia, although production of manmade fibers is scheduled for expansion in the Republic of South Africa, India, and Taiwan. In general, imports of manmade fiber textiles into Japan's other Asian and African markets are likely to expand relatively more than imports of cotton textiles. However, other industrial countries will also be actively competing for these markets.

In general, the outlook for cellulosic products seems somewhat less attractive than for noncellulosics, although rayon staple fiber products will probably continue to give severe price competition to cotton products in many of Japan's large-volume export markets. In order to maintain consumer interest in this type of goods, shippers of rayon staple fabrics will have to maintain reasonably good quality while offering attractive prices in relation to those of all-cotton goods.

A recent factor in the export market for cellulosics has been the entry made by high-wet modulus rayon fabrics (sometimes called "modified rayon" or "polynosic rayon"). There is every likelihood that this type of rayon will in the future give increased competition to regular rayon in view of its advantages. High wet-modulus rayon will probably continue to compete with cotton goods, particularly fine, lightweight types, an area in which it has already made considerable inroads in Southeast Asia. It is claimed that Japan's exports of high wet-modulus rayon fabrics have been limited only by its relatively low level of production in Japan in relation to the active demand in Japan's export markets. It can therefore be expected that exports will expand when Japanese output of high wet-modulus rayon reaches or extends beyond presently projected capacity.

With respect to Japan's export markets for noncellulosic textiles, the situation appears to afford considerable possibility for growth. The production of noncellulosics is limited to the highly industrialized countries of the world that may also largely expand such shipments into African and Asian markets. If Japan can compete successfully with American and European exporters of noncellulosic fibers and products, Japan's export market for them may expand percentage-wise more than its export market for cotton textiles.

In general, one may conclude that, in many less developed countries, Japan's market for coarse and low quality cotton goods will be curtailed as local production and/or imports from other low cost sources

expand, and that Japan's exports to such markets will probably change in character to include a greater volume of more specialized textiles, including cotton goods as well as noncellulosics, that are not so easily produced outside highly industrialized countries.

## In Developed Countries

The contradictory influences in developed countries with respect to cotton textile imports result in a clouded picture insofar as Japanese prospects are concerned. Some countries of Europe, that had by various means avoided importing Japanese textiles or had severely limited their import, have been opened somewhat, as a result of the Long-Term Cotton Textile Arrangement. Even though the volume of imports from Japan remains relatively small, prospects are for limited growth of a limited degree in Europe as a whole.

In developed countries, Japan finds itself competing with the products of many of the newer textile exporting countries, as well as India and Communist China. The excellent reputation of postwar Japanese textile products and the merchandising efficiency of Japanese trading companies in European markets probably give Japan an advantage over these newer entrants. However, some new textile exporting countries have the status of "associate members" of the European Economic Community and as such will have duty-free access to Common Market countries, an advantage that will be difficult to overcome, even for a highly efficient textile producer like Japan.

The economic integration of Common Market countries and of European Free Trade Association countries has necessitated a higher level of efficiency of producing units within these trading blocs; consequently, it will be increasingly difficult for an "outsider" to penetrate these mega-markets. However, sales of more highly advanced textile items, such as household goods and apparel, can probably be expanded even under the competitive situation expected to prevail.

Factors other than those relating strictly to textile trade may influence the course of Japan's future trade relations with developed countries. A key to the future may be afforded by the treatment of cotton and other textiles in future tariff negotiations under the General Agreement on Tariffs and Trade (GATT). If tariffs should be reduced by developed countries, so as to permit lower prices for imported merchandise other barriers may be maintained—quantitative limitations on amounts of goods entering from certain countries. It is generally realized, however, that Japanese-European trade relations will continue to rest on a mutually beneficial two-way trade, including textiles of Japanese origin. Another development of advantage to Japan has been Japan's acceptance as a full partner in the economic councils of the developed countries, which may result in an opportunity to shape cooperative economic endeavors and to provide increased business opportunities for Japanese enterprises.







